ACHIEVEMENT RELATED MOTIVATION

Among Tribal Adolescent Pupils

P. P. Gokulanathan

Himalaya Publishing House

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P. P. GOKULANATHAN

Reader, School of Education,
North Eastern Hill University
Shillong

FIRST EDITION : June, 1979.

PRICE Rs. 30-00

SHOWROOM :
Swadeshi Mills Estate
Girgaon, Bombay 400 004
Telephone : 351186–355789

Foreword

In developing countries there is increasing concern for detecting and fostering human potential as part of the overall strategy of national development. In spite of the fact that these countries are not at the same level of development, they all agree that involvement of all their peoples, particularly those from the downtrodden strata, is essential to achieve development with social justice. Formal education being the main channel open to people in these countries for vertical mobility, educational development assumes great significance and is valued as such by State authorities. There is often a crisis of expectations whenever new hopes raised by the leadership in these countries are belied either as a result of poor preparation on the part of people or as a result of the machinations of people in power. This is a real life social problem in which human motivation plays an important role.

India is faced with the task of lighting up the dark spots covering vast chunks of her area with concentrations of poor, illiterate, and socio-culturally deprived sections of people. The aspirations of these people are yet to find fulfilment. It is time to reflect on the future course of action on the socio-economic and educational fronts that the country must adopt in the next few years as part of the process to alleviate the sufferings and frustration of the so far neglected sections of people. It is in this context that the research reported in this volume assumes importance. The basic data around which the major themes in the book are discussed were collected on tribal and non-tribal adolescents of the north-eastern region of India and formed the doctoral work of Dr. Gokulanathan.

Research on achievement-related motivation appears to have promise in chalking out strategies for future development of our country. Dr. Gokulanathan has touched upon this possibility in

relation to development of the socio-culturally deprived sections of people. He has raised several important points for discussion and debate, and has posed problems for further research. I trust that the book will be of interest to social scientists and leaders of public opinion who are concerned with the shaping of future destinies of people in the north-eastern part of the country.

Chandran D S Devanesen
North-Eastern Hill University   Vice-Chancellor
Shillong

Preface

Experimental research on human motivation has seen unprecedented growth in the last few decades. Perhaps the relevance of motivation to different areas of human activity has contributed considerably to sustain the interest of psychologists in this area of study. Among significant contributions to our understanding of human motivation are the large number of studies on achievement-related motivation, initiated originally by McClelland and associates. After initial success at developing the outline for a theory of and a method for measurement of the achievement-related motives, the role of the motives to soc·etal problems was taken up for study. Notable among the problems studied are applications of achievement-related motivation to economic development, educational development, social mobility and social change. The bulk of research findings gathered regarding the relevance of achievement-related motivation to the development of society need to be confirmed in cross-cultural research. The present Indian scene perhaps marks a period in her history when important changes are taking place in society. Systematic research is needed to learn more about the psychological equipment of the younger generation as applicable to the process of change taking place in India. It was in this spirit that the present research was undertaken.

The research reported here is based on a survey of the levels of achievement motivation and achievement anxiety and their relevance to academic achievement and scholastic aspiration in secondary school pupils of Assam. In undertaking this research and in the completion of it I was guided by Dr Prayag Mehta, Senior Fellow & Dean incharge National Labour Institute, New Delhi. My indebtedness to him as supervisor of this research is enormous of which this is but a small expression. I want to express my apprecia-

tion of help offered by my former colleagues in the Gauhati University, Dr Golok Goswami and Dr K P Bora and also by my former students, Suren Sarania and Aparajita Borpuzari in translation of the test meterials. I am also indebted to my former Dibrugarh University colleague Mr Atul Goswami and my former student Anita Dutta for scoring a set of TAT stories; to my former students Kamruzzaman, Sabita Sarma, and Bina Gogoi for help in administration of the test materials in different schools; and to those teachers who helped me to conduct the study in their respective schools. With great affection I should like to record my sense of gratitude to the young pupils who worked as subjects of the study. I also acknowledge a very special debt to my younger brother Nityanandan and to Rizan Ullah both of whom helped me in innumerable ways in completing the research.

The thought of publishing the work was somewhere in a corner of my mind but could not find fulfilment till I joined the North-Eastern Hill University. In concretising the idea I was inspired by the former Vice-Chancellor of the University, Dr C D S Devanesen who also wrote a foreword to the work. I express a special word of gratitude to him. I am also thankful to the National Council of Educational Research and Training, New Delhi for a grant to publish the work. Last but not the least, I express a special word of appreciation for the support I received from my wife, Jani and my daughters, Pia and Maya in getting the work going.

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P P Gokulanathan

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School of Education
North-Eastern Hill University
Shillong
1 May, 1979

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I. Introduction

Perhaps one of the most important tasks facing all societies is the problem of detecting and fostering talent. This concern has assumed the essential features of a revolution which has no precedent in human history. This is so because all nations are committed to development. "Development is growth plus change; change in turn is social and cultural as well as economic, and qualitative as well as quantitative." (Report of the Secretary-General, U.N., 1962, p.3). The anticipated changes on all these fronts then become the goals of contemporary societies. Everywhere it is increasingly being realised that human resource development is a necessary condition, if not a sufficient one, for achieving all the national goals. It is but the manifestion of an assertion that any programme of planned development can be brought about by human beings by becoming the active agents of change.

"Human resource development is the process of building the knowledge, the skills, the working abilities, and the innate capacities of all of the people in a society" (Harbison, 1964). In general, human resources are developed by formal education, on-the-job training programmes, and by self development programmes. Taken together, these programmes of education cater to human resource

development considered as a life long process. The fact that the governments of different nations are making increasing allotments to education in their national budgets bear testimony to their concern with human resource development through their educational systems.

Recent decades have also witnessed a shift in the emphasis laid by national plan strategists on the human potentialities to be developed through their educational programmes. Till recently the stress was on purely the intellectual side, but gradually the personality domain has also come to receive a place of importance. This new interest has come about as a result of certain findings in the domain of social change. 'Basically change is a process of adjustment to new values and ways of thinking' (Pareek, 1968; p.72) and hence a special case of person-environment interaction.

One of the personality dispositions that has received comparatively greater attention of researchers during the last three decades is the achievement-related motive. Of far reaching consequence is the pioneer work of McClelland (1961) who has tried to show how important is the achievement motive in the growth and decline of entire civilizations. His thesis is that the presence of a number of people with high achievement motivation precedes every age of economic prosperity and absence of such people is followed by economic decline. This means that the achievement motive probably plays a significant and decisive role in shaping the lives of individuals as well as societies.

India has the gigantic problem of freeing her population from the clutches of the old feudal value system. All her ills like poverty, illiteracy, and economic and social disparity stem from the influence of the feudal value system, determining directly or indirectly the life pattern of her population. Her educational system aims to eradicate these ills. The products of the educational institutions are not only expected to participate in all nation building activities, but are also expected to possess value patterns conducive to a developing secular, democratic social setup. If academic achievement is any criterion of effectiveness of the educational system, then the actual picture looks not very encouraging. For instance, the secondary education stage which is patterned to become a terminal point in the educational career of majority of pupils, shows how much wastage there is in the educational system. Only about 15–20% of the total enrolment

at the primary stage proceed to receive the full course of secondary education and among them not more than 50% complete the course successfully. In the north-eastern States of India each secondary school scrutinises the preparedness of the pupils before finally allowing them to appear at the Secondary School Leaving Certificate examination of their Boards of Secondary Education. Even then the extent of wastage is greater in these States. Ability factors alone cannot explain such huge wastage. Do the pupils possess the required psychological preparedness, the necessary urge to achieve ? Can differences in the levels of motivation explain differences in performance variables like academic aspiration and achievement in secondary school pupils ?

Achievement motivation has been defined as a concern for excellence in performance, as reflected in competition with the standards set by others or oneself, unique accomplishment, or long term involvement (McClelland et al., 1953). It is likely that the situations which evoke achievement motivation and in which achievement behaviours will ensue, are those in which competence of performance is the focal issue. A related, but probably distinct, dimension of achievement-related motivation is anxiety or motive to avoid failure (also called Fear of Failure). The motive to avoid failure also plays important part in achievement-related situations. Pupils are frequently placed in such situations in class rooms, examination halls and elsewhere. Such situations stimulate both achievement motive as well as motive to avoid failure in them. Any study of pupils' achievement motivation should necessarily include understanding of achievement anxiety as well.

The north-eastern region of India presents a somewhat unique situation, somewhat unlike other regions in the country. It is the presence of a relatively large number of racial and ethnic groups living as neighbours within a limited geographical region. Their racial and cultural histories are different, and as a result they are not equally developed socio-economically and educationally. The tribal population of the region has remained comparatively backward and isoloted from the main stream of Indian life. This peculiar position of the tribals is being given special attention by the Central and State governments. In all national and state plans of development the yearning of these groups for a better life is being taken into con-

sideration. The special plans launched by the government including the granting of Statehood to different tribal areas to better the lives of the tribals and other depressed groups form a series of real life experiments in social change.

In any programme of real-life social change there is need to know the psychological equipment of members of the social group in whom the change is planned to be effected. It would probably be a waste of resources diverted for change if the members of the affected system do not feel the need for such change. After all it is they who have to become the active agents of change. McClelland and Winter (1969, pp.349-350) sum up this fact as follows :

"What does seem to be essential is that the man develops a strong faith in himself as an origin or agent of change, as some one who can solve problems efficaciously on his own. If he believes in himself, if he is motivated to change things, then he is undoubtedly an expert on how to carry out change within his social framework and within his traditional beliefs. The most effective strategy, in other words, appears to be to change the man's self-image by direct instruction on this key point, and then to leave the rest to him .... It seems far more effective to convince a man directly that he can accomplish what he wants, that he can become a change agent, and then trust him to find ways within his traditional culture of accomplishing his aims."

Applied to the case of the depressed groups in India it would appear that a concern with their existing status and an urge to improve the same must first appear in the members of these groups. Perhaps there are indications showing their awareness of the problem. The general upsurge in these sections in various parts of the country should convince one that the concern is already there. An estimate of their urge to improve the living conditions must be known through an understanding of the pattern of achievement-related motivation in them. Here the assumption is that the strength of achievement-related motivation in the constituents of a social system is an indicator of the strength of their desire to improve their living conditions.

Education has to play a vital role in preparing the newer generation of Indians in general, and the members of the depressed sections

in particular, to face the challenges of a developing social system. This it can do by developing an urge in young minds to achieve better and higher standards of life. The reports of the various education commissions submitted in the past few decades (Radhakrishnan Commission, 1949 ; Mudaliar Commission, 1953 ; Kothari Commission, 1966) pointed out that one of the major failures of our educational system was its failure to help national reconstruction. In fact national development was the central theme of the Kothari Commission. The urge to improve or develop has been found to play important part in achieving development. The present research aimed at surveying the strength of this urge or need for achievement in tribal and non-tribal secondary school pupils and to identify factors which might be associated with this need.

II. Review of Research on Achievement-Related Motivation

There has been a very significant increase in the field of motivation research in the past few years. One of the most important changes in experimentation on motivation has been a shift from a primarily biological orientation (done mostly through extrapolation studies on animal motivation) to a greater attention to characteristics of human motivated behaviour. This has led to two major changes in assumptions in motivational theory, namely, that 'the important psychogenic motives are learned (not instinctual), and that they are somehow acquired by association with primary biological pleasure and pain' (MeClelland, 1951). A second major change has been a shift of emphasis from learning the 'how' of things (a process-oriented approach) to learning the 'what' of things (a content-oriented approach). This change is reflected in the relatively greater concern of contemporary psychologists to look for clues of human behaviour in the family, social, economic, religious and political systems surrounding humans. The important place given to a content-oriented approach has also affected the methodology of motivational research. There is more and more faith now in fantasy behaviour as a source to look for mental content in humans. Indirectly this has helped to bring the topics of unconscious motivation and defensiveness under more experimental control for their analysis and investigation. A third major change relates to the increasing emphasis now being attached to particularistic empirical approaches in studies on motivation in preferance to a global approach. The present research was undertaken

keeping in view these major changes as they have affected one area of motivational research—the achievement-related motivation. The review of research presented below would show how the aforementioned changes in motivational research have affected actual research on achievement-related motivation.

Research on achievement-related motivation has comparatively a short history of development. But as a subject matter of importance in personality dynamics it finds a place in the works of Adler (1927). Adler's concept of 'inferiority complex', 'masculine protest' and 'striving for superiority' all point to the gratification of achievement needs as an important goal of human behaviour. In Murray's (1938) system of personality study also an important place is accorded to human needs. The essence of Murray's conception of personality is the idea of a hierarchy or configuration of basic psychogenic needs or motives. It was he who first used the form *n* Achievement to refer to achievement needs. Lewin (1935) also emphasised the importance of achievement motivation in human experience. He was among the first to study the 'upward striving' nature of human achievement aspirations and behaviours. Of special significance to later research on human aspiration and achievement behaviours was his 'level of aspiration' paradigm.

As a special area of interest the study of achievement motivation was initiated when a technique was developed to assess individual differences in the need for achievement (*n* Achievement) or the desire to perform in competition with a standard of excellence. The instrument used was an adaptation of Murray's (1943) Thematic Apperception Test (TAT). The experimental paradigm followed to test whether the TAT reflects the strength of a need was to arouse the need in the subject by depriving them of concomitants of that need. The first successful experiment was conducted by Atkinson and McClelland (1948) in case of the need for hunger. Later McClelland et al. (1949) applied the arousal technique to the achievement need through ego-involving instructions to American college boys and found that achievement-related imaginative responses provide a measure of the heightened state of motivation. This finding was confirmed by using similar or more sophisticated arousal variables with American college male students by McClelland et al. (1953), Wendt (1955), Martire (1956), Haber and Alpert (1964), O'Connor (1960), and Klinger (1967). The suitability of this technique for application with American high

school boys was reported by Veroff (1950), Veroff, Wilcox, and Atkinson (1953), Ricciuti and Clark (1954).

The results obtained using similar arousal techniques with American female subjects have shown neither consistency with the findings for men nor internal consistency with each other. Thus Veroff (1950), Wilcox (1951), and French and Lesser (1964) failed to produce consistent increases in n Achievement scores following achievement arousal instructions that stress intelligence and leadership qualities. Lesser, Krawitz and Packard (1963) found increases in n Achievement scores following such arousal instructions with a group of achieving American High School girls, but not with the underachieving ones. Feld (1967) supplied some clarification of the experimental arousal issue by demonstrating that, although manipulating achievement orientation by refernce to intelligence and leadership does not increase n Achievement scores in female subjects, experimental conditions which arouse a concern about social acceptance produce increases in their achievement motivation scores. Following this finding Lesser et al. (1963) and French and Lesser (1964) have attemped to explain the differences in the reactions of American boys and girls to similar arousal instructions by reference to the male and female social roles in American society.

Several cross-cultural studies using TAT adaptations of n Achievement under arousal conditions have shown the promise of the instrument to tap achievement motivation in boys and girls. Angelini (1955) reported successful findings on Brazilian college boys and girls; Hayashi and Habu (1962) successfully tried the test on Japanese college boys and girls, while Tedeschi (1962), using Persian graduates, reported success with the instrument. In India also the technique was used with success by Tamhankar (1967) and Sinha (1970). Later Mehta (1969) developed a test of achievement motivation for use with Indian children. The test consists of six pictures of the TAT type. The scoring system adopted is the one developed by McClelland and his associates (1953). The test has since been used as a measure of achievement motivation in several Indian studies (Desai, 1970; Chaudhary, 1972; Mohta, 1973; Lyngdoh, 1975; Pandaripande, 1972; 1976). By and large TAT is the most widely used instrument in studies on achievement motivation.

The validity of n Achievement score on the thematic apperceptive instrument has been studied by relating it to actual performance in

achievement oriented situations. The first study to test this question was conducted by Lowell (1952) by comparing the performances of persons with high and low *n* Achievment scores (divided at median) on an arithmetic and verbal task. He found that persons having high *n* Achievement scores showed a higher level of performance on both tasks than persons having low *n* Achievement scores. Similar results were reported by Atkinson (1953), French (1955), Atkinson and Raphelson (1956), Wendt (1955) showing a positive relationship between performance in laboratory experiments and *n* Achievement scores. In all these studies the TAT was administered under neutral conditions (no experimental procedures employed to heighten or weaken motivation prior to the writing of TAT stories) to obtain a measure of the stable personality disposition called the achievement need. However, it is assumed that the task or performance situation contains cues leading to the expectancy that performance would lead to a feeling of accomplishment. These findings of several earlier studies showing the relationship between *n* Achievement scores and various indices of achievement-oriented behaviour are summarised by Weiner (1967, p.54): "Persons scoring high in need for achievement appear to be striving for achievement-related goals and to engage in activities which will lead to these goals. These individuals also have greater ability to delay gratification. They tend to forego a smaller immediate reward to obtain a larger reward at a later time. This behaviour is not exhibited as frequently by subjects low in need for achievement."

The relationship studies between TAT *n* Achievement scores and other responses, such as learning, perceptual sensitivity, and task recall reported mostly during 1950-56 paved the way to formulate empirical laws. These laws made it clear that any theoretical formulation to explain a person's tendency to achieve at a task must inculde the disposition called the achievement motive and the arousal variables in the task situation. Atkinson formulated a theoretical model of achievement motivation in 1957. He postulated that knowledge of three factors is necessary to predict the strength of an approach tendency toward an achievement-oriented goal : the motive to achieve success (M_S or the need for achievement), the probability that one will be successful at the task (P_S), and the incentive value of success (I_S). Atkinson himself acknowledged (Atkinson, 1964, p. 239) the contribution of Tolman's Expectancy X Value Theory and

the classical Lewinian equation of $B = f(P,E)$ in his formulation. Atkinson defines the tendency to achieve success thus : Tendency to acheive success $(T_S) =$ Motive to achieve success $(M_S) \times$ Probability of success $(P_S) \times$ Incentive value of success (I_S). If any sample of achievement behaviour is considered, then the inadequacy of this formula becomes clear, for inherent in every such behaviour is the possibility of failure. That is, there are at least two critical events which terminate a given sequence of behaviour namely, success and failure. This possibility was first proposed by McClelland and Liberman (1949) in connection with a relationship study between *n* Achievement and recognition of words. Brown (1952) also suggested that persons with low *n* Achievement scores, and who showed greater rigidity in problem-solving in his experiment possibly showed evidence of greater anxiety about failure. When this dimension is included in the perview of achievement-related motive, its connotation becomes wider. Heckhausen's definition reflects this view. He defines achievement motive as "the striving to increase, or keep as high as possible, one's own capability in all activities in which a standard of excellence is thought to apply and where the execution of such activities can, therefore, either succeed or fail" (Heckhausen, 1967, pp. 4-5). Atkinson's model, therefore, includes a tendency to avoid failure which is conceived in similar terms as the approach tendency. He defines it in terms of the motive to avoid failure (M_{AF}) or anxiety about failure, a probability of failing at the task (P_f), and a negative incentive associated with failure (I_f). According to the theory of achievement motivation the resultant tendency to undertake achievement activities is the algebraic sum of the tendency to approach success (T_S) and the tendency to avoid failure (T_{-f}). In this formulation Atkinson has conceptualised these relationships as a strict dependency of incentive on expectancy of goal attainment. Incentive (I) for him is simply the linear complement of subjective probability of success (P_S), that is $I = 1 - P_S$.

After the formulation of the theory of achievement motivation several studies have been conducted to test the implications of the theory by studying the relationship between performance variables like risk-taking, level of achievement, and persistence and achievement-related motivation. A direct comparison of results from these studies cannot easily be made because the measures of the two achievement-related motives used in them are different. Atkinson and

associates have used TAT *n* Achievement score as a measure of M_S and the Test Anxiety Questionnarie (TAQ) by Mandler and Sarason (1952) as a measure of M_{AF}. Heckhausen (1967) uses the terms 'hope of success' (H_S) and 'fear of failure' (FF) to correspond to Atkinson's M_S and M_{AF} respectively, and both these measures he obtains by administering his set of TAT pictures. Birney et al. (1969) use the orginal TAT pictures of McClelland and associates to measure hope of success and their TAT Hostile Press (HP) to measure fear of failure. However, taken together, these studies provide a fund of useful information with possible scope for application in education, sociology and economics.

On the basis of Atkinson's model of achievement motivation certain predictions can be made regarding the relationship between achievement-related motives and the performance variables of risk-preference, level of performance and persistence in achievement-oriented activity. Thus, given the assumptions of the theory, "*n* Achievement would be positively related and test anxiety negatively related to preference for intermediate risk, level of achievement-oriented performance, and persistence in achievement-oriented activity before clear knowledge of results had been attained" (Atkinson, 1964, p.248). Following similar reasoning it can be predicted that when persons are simultaneously classified on the two motives into High and Low groups (using the median as cut-off point), the group High in M_S and Low in M_{AF} should have the strongest resultant tendency to approach success and the group High in M_{AF} and Low in M_S should have either the weakest tendency to approach success or a resultant avoidance tendency. Hence predictions about the nature of performance of these groups can also be made.

Almost all risk-taking studies reported involve decision-making under uncertainty. In certain cases the amount of risk taken is known to the subject prior to choice-selection, and in others, it is not known. Several studies (McClelland, 1958; Atkinson, 1958; Litwin, 1958; Vitz, 1957; Atkinson and Litwin, 1960; Atkinson, Bastian, Earl and Litwin, 1960) reported that there is a curvilinear type of relationship between *n* Achievement and risk-taking, with high *n* Achievement associated with intermediate risk. Results showing the relationship between test-anxiety and risk taking behaviour exhibit different trends. Several studies (Atkinson and Litwin, 1960; Mahone, 1960; Atkinson, Bastian, Earl and Litwin, 1960; Atkinson

and O'Connor, 1966; Isaacson, 1964: Littig, 1963) reported that the highly anxious person avoids the intermediate range of risk and prefers either a lower risk or a higher one. However several others (deCharms and Dave, 1965; Litwin and Ciarlo, 1960; Hancock and Teevan, 1964; Alker, 1967) did not find such results in their studies. Atkinson and his associates also reported findings showing the preference of achievement-oriented subjects (M$_S$>MAF) for intermediate range probabilities in risk-taking studies as compared to those in whom the anxiety motive is stronger (M$_{AF}$>M$_s$). However in many of these studies the subjects with high *n* Achievement-low anxiety scores did actually choose probabilities either below 50% (P$_S$ between 25% and 40% as in McClelland, 1958; Litwin, 1958; Atkinson, Bastian, Earl and Litwin, 1960; Atkinson and Litwin, 1960; Meyer et al., 1965) or above 50% (as in Pottharst, 1955; Kausler and Trapp, 1958; Brody, 1963; Feather, 1965). The preference of approach-motivated subjects for lower than 50% probabitities is also reported by Heckhausen (1963), and deCharms and Dave (1965).

Inferences about risk-taking are also made from studies involving vocational choices or choice of educational courses. Here the discrepancy between the goal aspired and the personal equipment to attain the goal is often taken as an index of the risk-taking pattern. Mahone (1960) found that persons with strong approach-motive tendency tend to be realistic in their vocational choice with respect to both ability and interest, as against those with strong avoidance motive tendency. Morris (1966) found that individuals with high *n* Achievement-low anxiety scores chose occupations as if they were attempting an intermediate degree of risk, while those with high anxiety-low *n* Achievement scores avoided such choices. Isaacson (1964) applied Atkinson's (1957) model of resultant motivation to curricular choices of students and found such choices following the predictions of the model in case of boys, but not in case of girls. Tamhankar (1967) did not find any definite relationship between *n* Achievement of high school boys and the discrepency scores between their marks obtained in a past school examination and their expectancy at an ensuing examination.

It would thus appear that the probability bias hypothesis based on Atkinson's model of achievement motivation is not well-supported by research findings. Kogan and Wallach (1967) after surveying the literature dealing with the effect of individul difference variables on

risk-taking, suggest the necessity of controlling such factors as incentive definition, social context and task history in risk-taking studies for a better understanding of motivational effects on risk-taking behaviour.

Of more practical significance are the studies showing the relationship between achievement-related motivation and academic achievement. Some studies have reported a significant positive relationship between n Achievement and academic achievement (Morgan, 1951; McClelland et al., 1953: Rosen, 1956; Clark and McClelland, 1956; Strodtbeck, 1958; Weiss et al., 1959; Littig and Yeracaris, 1963; Tamhankar, 1967; Mehta, 1969, Sinha, 1970; Mohta, 1973); some others have reported from low to moderate positive correlation (Lowell, 1952; Morgan, 1952, Riccuiti and Sadacca, 1955; Atkinson and Litwin, 1960; Pierce and Bowman, 1960; Uhlinger and Stephens, 1960; Smith, 1964; Caplehorn and Sutton, 1965); and still others have found negative relationship (Atkinson, 1950; Morgan, 1952; Parrish and Rethlingshafer, 1954; Lazarus et al., 1957; Broverman et al., 1960; Cole et al., 1962). In two other studies (Silber et al., 1961; Field et al., 1963) it was possible to infer the positive correlation between academic performance and n Achievement from the TAT stories written by two samples of highly competent students, from the United States and the other from Puerto Rico. The relationship between the motive to avoid failure and academic achievement also shown different trends. Atkinson and Litwin (1960) reported significant negative relationship; Sarason and Mandler (1952) and Birney et. al. (1969) obtained positive correlation, while Smith (1964) obtained low, insignificant negative relationship. In some Indian studies it was possible to infer a low positive, insignificant relationship between test anxiety and academic achievement (Pdah, 1977; Medhi 1977; Gupta, 1978). There are a few studies (Ryan and Lakie, 1965; Heckhausen, 1967; Karabenic and Youseff, 1968; Mehta, 1969) showing positive relationship between approach motivation ($M_S > M_{AF}$) and level of performance; the same was not found to be true of avoidance-motivation ($M_{AF} > M_S$).

The other performance variable to receive a place of importance in achievement motivation research is persistence in performance at a task. In some studies (French and Thomas, 1958; Winterbottom, 1958) n Achievement was found to be positively related to persistence. But test-anxiety and persistence do not show consistent

results. In many studies (Mandler and Sarason, 1952; Sarason, Mandler and Craighill, 1952), highly anxious subjects were reported to be performing slowly at the task indicating greater persistence. But Atkinson and Litwin (1960) found negative relationship between test-anxiety and persistence; Weiner (1965) who studied persistence in subjects simultaneously classified on the two achievement-related motives found the $M_S > M_{AF}$ group persisting at a task following failure as opposed to the reaction of the $M_{AF} > M_S$ group.

The research findings reviewed so far probably show that there is much more to know about the performance situation. The exact role of motivational variables in performance is probably hidden by the complexity of the performance situation. In the persent reseasrch an attempt is made to look for some of these unknown factors in the context of a real life academic performance situation.

The research findings accumulted over years regarding the determinants of achievement-oriented behaviour in terms of motives, expectancies and incentives have helped to check the validity of Atkinson's model. One of the major criticisms against the model relates to the theoretical simplification adopted in the model delegating incentive to the position of a direct complement of the probability term. Following this there have been attempts to look for incentives that are independent of success probabilities. One such attempt is made by Feather (1967). He has supplemented Atkinson's model by a factor C, representing the degree of perceived responsibility for the outcome of one's own achievement-related activities. Heckhausen (1969) and associates have also made a beginning with the self-responsibility dimension in order to obtain new insights into the relationship between motives, arousal conditions, and behavioural data. He reports a result obtained by Wulf-Uwe Meyer (1969) showing the goal setting pattern of boys and girls possessing different amounts of self-responsibility for their successes and their failures. He found that those who felt highly responsible set goals of intermediate difficulty, while those who did not feel very responsible did not show any pronounced preference. He also reports correlation studies between responsibility and 'hope of success' (HS) as well as with 'fear of failure' (FF) measures. In 10 year-old boys HS showed correlation between .50 to .60 with responsibility for success as well as for failure. This suggests that the HS personality accepts every feedback seriously. FF did not show any definite correlation with res-

ponsibility for success or failure, but there was a curvilinar relationship. People with medium high FF scored highest on responsibility for failure; and low FF as well as high FF people scored significantly lower. Heckhausen (1969) predicts that self-responsibility might turn out to be a moderator variable of the relationship between motive and performance variables. Raynor and Rubin (1971) have suggested the need to include contingent and noncontingent conditions as moderator variables in explaining the relationship between achievement motivation and performance. deCharms (1968) has suggested 'desire of group approval' as an incentive which may function in task performance situation independent of the incentive to do the task well. Mukerjee (1974) has put forward conscientiousness as an important value incentive in an achievement-related situation, Veroff (1969) has gone a step further by suggesting the possibility of two types of achievement motivation—one, 'autonomous achievement motivation' which brings internalised personal standards into play and second, 'social achievement motivation' which brings standards of excellence based on social comparison into play.

The exact role of anxiety or fear of failure determining the relationship between achievement-related motivation and performance is not fully understood yet. The accumulated research findings seem to suggest that anxiety does not always act as a debilitating influence as regards achievement-related behaviour is concerned. Thus Heckhausen (1975) has suggested that fear of failure may act as self reinforcing motive system. Gokulnathan and Mehta (1976) have suggested the possibility of situational and organisational variables in creating moderately high level of anxiety which may help in academic achievement. Mehta (1977) stresses the need to undertake research on problems like perceived task difficulty, knowledge of results, success and failure experiences, cognitions concerning incentive and values, responsibility concerning the outcome, anxiety for achievement, and personal and social achievement goals in order to sharpen our understanding of theory of achievement motivation and its application for socio-economic development.

An important field which has witnessed much progress in recent years relates the origin of the achievement-related motive. The bulk of research in this area has tried to look for clues in child-rearing practices leading to an understanding of the origins of achievement striving in children. The starting point was a study by Winterbottom

(1958) who made comparison between mothers of 8 to 10 years old boys of high and low *n* Achievement scores. She found that mothers of the highs expected independence and mastery of the environment at an earlier age than mothers of the lows. Serveral other independent studies (Moss and Kagan, 1961 ; Feld, 1967) have confirmed the impotance of early independence training. However, in a cross-cultural study, Hayashi and Yamaushi (1964) failed to confirm Winterbottom's findings in Japan. They found that Japanese mothers expect self-reliance from their children much earlier than American mothers, and that these children exhibit comparatively lower *n* Achievement levels. Veroff (1965) has presented theoretical considerations regarding the effects of parental demands that miss the optimal development stage in the child's life. His theoretical stand might explain the paradoxical finding obtained with Japanese mothers and their children.

As regards the mechanics of achievement motive origin there are at least two well known views. Crandall and associates (Crandall, Katkovsky and Preston, 1960 ; Crandall, Preston and Rabson, 1960) take the view that the achievement motive develops somehow from ontogenetically earlier motives. Once the achievement motive emerges then its goal becomes obtaining parental approval and avoiding their disapproval. Thus they take the view that achievement motivation is exclusively a product of social learning and that achievement behaviour originates entirely in reinforcement by social sanctions. Heckhausen (1969) thinks that social reinforcement by approval or disapproval is not a necessary condition in the acquisition and the continuous building up of the achievement motive. According to him the experience of produced effects has in itself a reinforcing value for the child which is sufficiently and intrinsically rewarding. To him the very origin of achievement motivation is identical with the first appearance of a self-reinforcement contingent on an activity requiring a certain mastery. If, on the other hand, social approval or disapproval is aspired to, or avoided, exclusively for its own sake, it becomes achievement-related behaviour in the service of the approval motive. Heckhausen is inclined to believe that social approval or disapproval provide information yielding measures of success which can be internalised as standards of excellence. Such building up of a refernnce system by social information ordinarily goes along in addition to an immediate success feedback by the ongoing task activity.

Several researchers have reported the findings regarding parental antecedents of childern's beliefs in internal-external control of reinforcement in achievement situations. Rosen and D'Andrade (1959) who observed parents' behaviour in reaction to problem-solving activities of their sons, found mothers of high *n* Achievement boys reacting with warmth to successes and with rejection to failures. In addition, fathers of low achievement-oriented sons appeared to be dominant and to interfere with the son's attempts at achievement. In a cross-cultural study, Bradburn (1963) found boys separated from their dominant fathers at a relatively early age showing higher *n* Achievement. Heckhausen (1969, pp.133-134) mentions a recent study of McGhee and Teevan (1965) where it was found that "childern whose mothers were neutral following satisfactory behaviour and punishing following unsatisfactory behaviour had higher fear of failure motivation than those subjects whose mothers were rewarding and neutral respectively." He summarises the results from yet another study (Katkovski, Crandall, and Good, 1967) thus : "parent behaviours characterised as warm, praising, protective, and supportive were positively associated with children's beliefs in internal control. Conversely, negative parental behaviours such as dominance, rejection, and criticality were negatively associated with beliefs in internal control" (Heckhausen, 1969, p, 129). Studies conducted in India do not show consistent results as regards parental behaviour and develop ment of achievement behaviours in children. Thus whereas Murlidharan and Topa (1970) found parents of high *n* Achievement children reward frequently for compliance behaviour, Pandaripande (1976) found the opposite trend in his study. In both studies it was found that the standards adopted by parents towards their sons and daughters were not the same.

Alongside the studies on the origins of achievement motivation research interest grew to study the relationship of several familial, socio-cultural, educational, and economic factors to motivation development. In many of these studies the socialisation process and socialisation agents have received ample attention. The family variables and their relavance to motivation development in children is reported among others by Rosen (1955, 1956, 1961), Norman (1968), and Sewell and Shah (1968). Parental values like emphasis upon standards of excellence in achievements of children and actual parental involvement in children's performance are reported as determining

forces in achievement training of children (Rasan, 1955). Also related to achievement motivation development in children are the demorgraphic factors—family size, ordinal position, mother's age and social class. Rosen (1961) found all these factors relevant to the development of achievement motivation in children, but he thinks that their effects are complicated, interconnected and interdependent upon one another, and difficult to assess individually. However, he confirmed his earlier finding (Rosen, 1956) that social class is consistently related to achievement motivation, it being significantly higher in middle and upper class childern than in lower class ones. In several other studies (Strodtbeck, 1958 ; Veroff, 1960 ; Tamhankar, 1967) similar results were obtained. But some other studies (McClelland, 1961 ; Mehta, 1969) reported practically identical n Achievement levels among children of upper-middle and working classes.

Among the socio-cultural factors studied in the context of achievement motivation development are the general cultural milieu and racial religious and ethnic factors. Comparative studies (McClelland and Friedman, 1952 ; Child, Storm, and Veroff, 1958) of different cultures in terms of their folk-tales show cultures with n Achievement satiated folk-tales initiated independence training of their children earlier, and both rewarded self-reliant activities and punished the lack of such efforts to a greater degree. Religion, through its tenets and values, probably causes variation in n Achievement. Thus McClelland, Rindlisbacher and deCharms (1955) and Strodtbeck and Sultan (1955) found Jews and protestants as distinctly over-achieving groups than Catholics. In Rosen's (1959) study were included samples from six different ethnic backgrounds. He found significant differences in the n Achievement scores of some of these groups. These studies mark the beginning of research in achievement motivation with its social consequences. In the present study the origin and development of achievement-related motives was not studied, but the findings in this area of research were used to show probable causes of individual differences in motivation levels among different groups of secondary school pupils included in the present study.

Perhaps the most provocative work related to need achievement is the one reported by McClelland and associates (McClelland, 1961 ; McClelland and Winter, 1969) which is concentrated on the role of achievement motivation in economic development, particularly with respect to entrepreneurship. The data have ranged from the analysis

of historical documents to cross-cultural studies of businessmen. Their studies have demonstrated the significance of achievement concern in the literary production of culture for the future economic development of that culture.

Recently McClelland (1965) has opened up a new field with the evidence explaining how certain kinds of short-term training courses serve to generate a stronger achievement motive in adults. His method involves giving suggestions from a prestige figure in a therapeutic atmosphere and using the principles of reinforcement. This training programme was tried by Kolb (1965) with American underachieving school boys and by Mehta (1969) with Indian underachieving boys. Kolb found in a follow-up study that underachieving boys from middle and upper class homes improved their school grades while Mehta reported significant academic gains in case of low SES boys following the training programme. Similar training programmes given to Indian businessmen resulted in increased entrepreneurial activity in their job careers (McClelland, 1965, 1969; Lasker, 1966). Several recent research papers on mobility and social change (Andrews, 1967; Pareek, 1967; Porter, 1968) contain suggestions to approach the problems of development and change from the side of relevant human motivations.

The recent years have also witnessed a number of researches (Agarwal, 1976; Litwin and Stringer, 1968; Pareek and Banerjee, 1976; Mehta, 1976, 1977) on human motivation conducted in various work organisations. Here the attempts have been to explain worker and managerial behaviours, work satisfaction, inter-personal behaviour and organisational climate in terms of the motivational equipment of various human elements within the organisation. Based on findings of these studies Mehta (1977) has suggested the possibility of a 'social achievement motivation' as distinct from 'personal achievement motivation'. He has conceptualised the 'need for personal achievement' (n PA) or personal achievement motivation as a "desire for competing for personal success in relation to certain standards of excellence". The 'need for social achievement' (n SA) or social achievement motivation, on the other hand, is indicated by a "desire for some kind of collective success in relation to some standards of excellence" (Mehta, 1977, p.224). The description of social achievement motivation given by Mehta is similar to the concept of 'group achievement motivation' described by Forward (1969) and

Zander (1971), but is different from what Veroff (1969) calls by the same label. Mehta (1977) has discussed the relevance of these concepts to understand the functioning of work organisations. The coming years are likely to witness increased use of motivational concepts in research designed to understand and/or influence the behaviour of industrial and similar organisations.

III. The Present Study

The present study was undertaken keeping in view the importance of achievement-related motivation research to the broad perspective of social and economic development in India. The study was conducted on high school going adolescent boys and girls drawn from different racial, socio-cultural and economic groups from the north-eastern region of India.

The general objectives of the present research were the following :

1. To assess the levels of achievement motivation and test anxiety among high school going tribal and non-tribal students drawn from the two sex groups, from rural and urban areas, from different socio-economic status backgrounds, and from different types of secondary schools ;

2. To study the relevance of various socio-cultural, economic and educational factors to need achievement and test anxiety in adolescents ,

3. To study the relationship between *n* Achievement as well as test anxiety to academic achievement;

4. To study the pattern of academic aspiration in adolescents with different levels of achievement motivation and test anxiety.

Method and Design of Research

The two achievement-related motives namely, the achievement motive and achievement anxiety are known to be dependent for their development upon several socio-cultural factors (McClelland et al., 1953; McClelland, 1961; Rosen and D'Andrade, 1959; Teevan et al., 1969) although it has not been possible to pinpoint exactly what these factors are. The present research was undertaken basically to study the prevalence of these motives among tribal and non-tribal secondary school pupils of the Assam region and to study their relationship to performance behaviour in an academic examination. Incidentally the research reported here also included within it a study of individual differences in the strengths of the two achievement-related motives among secondary school boys and girls, drawn from rural and urban areas, representing different socio-economic status backgrounds and attending different types of secondary schools. This part of the study was undertaken to try to identify some of the socio-cultural, economic, and educational factors as they are related to the development of the two motives.

Instruments used in the Study

(i) The need for achievement : Research on human motivation, studied as an independent variable, had to wait for the development of methods on scientific lines for its measurement. McClelland

(1958a) makes a classification of these methods into three groups : (a) Self-ratings by the subjects; (b) Ratings by outside observers; (c) Behavioural measures. The first group is subdivided into direct and indirect methods. Under direct methods straight forward questions asking about one's motives and intentions are put to the subject. Under the indirect methods are included scales and tests like Allport-Vernon-Lindzey Study of Values (Allport et al., 1951), or Edwards Personal Preference Schedule (Edwards, 1954), or Mukherji's Sentence Completion Test (Mukerji, 1965). One of the major weaknesses of self-ratings is their failure to make allowance for the faking answers the subject sometimes gives in order to appear socially acceptable. In the second group are included those methods that ask one or more qualified judges to give their judgments about a third person under observation for his expressed motives. In these methods, when only one judge does the rating there is the problem of obtaining judgement of the rater free from his subjective opinion. If more judges are employed, obtaining inter-judge agreement remains a problem. The behavioural methods include all projective or fantasy measures like TAT or French's Test of Insight (French, 1955).

Of all the methods used in the study of human motivation perhaps the most extensively used one is the TAT technique. It was first developed by Murray (1938) who made use of Freud's psycho-analytic formulation in psychotherapy that motives, oftentimes unknown to the individual, are clearly expressed in fantasy. To this psycho-analytic approach he added the knowledge of twentieth century innovations in psychometry and thus evolved a method of obtaining fantasy material under standardised conditions. In essence Murray obtained fantasy material by giving instructions to the subjects to write free imaginative stories in response to poorly structured, vague and ambiguous pictures. From such imaginative responses given in an awaken state, Murray and Morgan (1935) successfully tried to infer the motives of a subject. By way of providing a rationale to the TAT as a method of assessing the strength of human motives, Murray (1943) takes recourse to a common sense explanation that there is a natural tecdency among human beings to interpret an ambiguous and vague situation in conformity with their own past experience and present wants, and thus to express their sentiments and unconscious or conscious needs whenever they find an opportunity to do so. Thus when the TAT pictures are

presented as a test of imagination, the subject gets completely involved in the task of writing stories and forgets himself so that before he knows that, he has said many things about an invented character that apply to himself. The extensive scoring system developed by Murray permits of an objective analysis of the fantasy material produced.

The TAT type of test was made use of for the first time in the study of a specific motive, by McClelland and group at Wesleyan University. By manipulating the strength of this motive among college students through ego-involving, or relaxing instructional cues they found that motivational changes do reflect themselves in the TAT stories written. Based on such characteristic changes in stories, a scoring system for measuring achievement motivation was developed. The TAT has since been used in a very large number of research studies to derive an overall index of the strength of an individual's achievement motive. Earlier results (McClelland, 1951a) demonstrated the potentiality of an n Achievement score based on fantasy as a measure of the achievement motivation of the individuals irrespective of their cultural background. Later studies (McClelland et al., 1953; Atkinson, 1958; Veroff, 1961) have, however, pointed out the effect of cultural and situational variables on thematic apperception. Lindzey (1961) has summarised these differential effects of cultures on projective techniques. This prompted the present writer to use a set of TAT pictures, developed by Mehta (1969) for use with Indian subjects, in preference to pictures prepared in foreign countries. The set contains six pictures selected from among a set of twenty-four pictures used at the tryout stage of development of the TAT instrument. All the pictorial cues for the above set of pictures were examined on the following characteristics: discriminating power; evokability of achievement imagery, correlation of total score on each cue with total school marks, inter-scorer agreement on achievement imagery (the AI category in the TAT protocol scoring system), and inter-scorer correlation between total scores assigned to the stories by two independent scorers (Mehta, 1969).

The description of the set of pictures used in the present study in the order in which they were presented is given below. (see also Appendix I)

1. A doctor and a patient.
2. A boy learning to play on the table from his teacher.
3. A boy with a book sitting on a cot.
4. A boy with a notebook, an inkpot, and a pen.
5. A group of boys playing cricket.
6. A boy painting.

(ii) Achievement anxiety: The study of achievement anxiety or 'anxiety about failure' as a separate component of achievement-related motivation was not conceived of in the beginning by McClelland and his group who first started research on the subject. It was only when Atkinson (1958) began to work on a theory of achievement motivation that the need for a tool to measure anxiety variable was felt. In their later research, Atkinson and his associates have made use of a questionnaire measure of test anxiety along with the projective measure of *n* Achievement. Sach a combination of two tests has been extensively used in research on achievement motivation in recent years. There has also been a tendency among some researchers (Heckhausen, 1969; Birney et al., 1969) to make use of a projective test to obtain a measure of achievement anxiety.

In the present study, an inventory—The Achievement Value and Anxiety Inventory (AVAI)—developed by Mehta (1969) with a view to developing a self-rating kind of objective measure of achievement motivation, was used to measure achievement anxiety. In its original form it is a multiple response type questionnaire in Hindi developed with material taken from the stories written by high school boys in response to Mehta's (1969) TAT pictures. Those stories which were scored independently by two scorers, either as AI, TI, or UI (Achievement imagery, Task imagery, and Unrelated imagery respectively) were searched for framing alternative responses to statements based on pictures used in developing the TAT set of pictures. Twenty-two descriptive statements followed by six alternatives under each were finally selected. Of these six responses under a statement, two each were achievement related (AR responses), task related (TR responses), and seemingly unrelated to achievement (UR responses). The results obtained by Mehta (1969) revealed the nature of the different measures obtained from the Inventory. Of the four measures studied, two were found to be distinct measures—the AR

minus UR score provided a measure of achievement-related values, and UR provided a measure of achievement anxiety (the motive to avoid failure). It was the UR score on the AVAI that was used as a measure of achievement anxiety in the present study. (see Appendix II).

(iii) Academic performance : Performance at the Assam Secondary Education Board's Secondary School Leaving Certificate examination was taken as the index of academic performance in the present study. However, not all the pupils who had taken the TAT and the AVAI tests were allowed to appear at the Board's examination as because all of them did not perform well in the Test examination conducted by the schools for the purpose of scrutinising the performance of candidates aspiring to appear at the Board's examination. The schools are generally strict in the matter of selecting pupils to be sent for the Board's examination because the quality of the results at the Board's examination is used as a factor for granting recognition by the Board and for grant-giving purposes by the State Department of Education. In the case of pupils who had taken the TAT and the AVAI and who were not set by the schools for the Board's examination, the performance at the Test examination was taken as the index of academic performance. In all cases the total marks obtained in these examinations were converted into a percentage of the grand total for each candidate and that percentage was taken as the actual index of academic achievement.

(iv) Socio-economic status : Complete data relating to the socio-economic status (SES) of the fathers of the subjects were available only in the case of the urban group. The variables included under SES are education, occupation, and income of the father. In case of the rural subjects only information on education and income of their fathers was available. In the analysis of the present study, therefore, SES class of the urban subjects was used; in addition, the three variables forming the SES class were used separately.

For the urban group, SES grouping of subjects was made using the Socio-economic Status Scale (urban) Form A (Kuppuswamy, 1962). The five classes suggested in the Scale were reduced to three namely, High, Middle, and Low classes by combining some of classes in the original Scale manual.

(v) Scholastic aspiration : A single-item questionnaire which required the sample of students to express the aggregate percentage of marks that they aspired to score in a forthcoming school examination was used as the measure of scholastic aspiration in the persent study. (Appendix III)

Sample

(i) The conceptual basis : The choice of the sample for this study was guided by the major objectives of the present research namely, to survey the prevalence of the two achievement-related motives in tribal and non-tribal secondary school children and to find the relationship between the motives and the performance variables of academic performance and scholastic aspiration. The first objective demanded that the study be conducted on a representative sample of the secondary school going population of the region surveyed. The seeond objective demanded, in addition, that the study be limited to pupils for whom academic performance data obtained under somewhat standardised testing conditions be available. To these requirements was added the writer's conviction that the achievement-related motives are dependent for their development upon several socio-cultural and educational factors. What all these amounted to was to select the sample from a particular grade of secondary schools within a limited geographical area, representative enough to include pupils representing socio-culturally, economically, and educationally unequal backgrounds. In terms of sampling terminology it had to be a stratified random sample, the strata being the different socio-cultural economic and educational factors, and randomising principle limited to selection of schools. In actual practice the strata included were the following : Racial background, sex, area of residence, socio-economic status background, and type of school classified on different bases.

(ii) The actual sample : The sample used in the study was drawn from 14 secondary schools which represented all the strata mentioned earlier. The selected schools had only one section in their last classes. At the time of data collection all the pupils included in the sample were planning to take the Secondary School Leaving Certificate examination of the Assam Secondary Education Board. No selection was made from among the pupils in the last class of the

selected schools. All those present on the day of testing were included. In all 383 pupils were available for the final study of which 294 were boys and 89 were girls. Table 2.01 shows the sample of pupils distributed on all the major strata represented in the study.

Data Collection and Scoring

The work started with the translation of all the necessary test material into Assamese. Thus the instruction for the TAT, the leading questions for the writing of stories in response to the pictures, and the AVAI items were first translated into Assamese by a psychometrician colleague of the present writer and were subsequently subjected to a thorough scrutiny of an Assamese language expert. These materials were then printed. The Socio-economic Status, Scale, Form A (Urban), (Kuppuswamy, 1962), was used in its original English form. Fifty sets of TAT pictures (Mehta, 1969) were also printed.

The order of presentation of test materials to the respondents was as follows : TAT pictures, the AVAI, and the SES Scale. All the tests were administered to groups of students in their regular class room atmosphere. In all cases the writer himself administered the tests to the entire sample. This helped to avoid any possible administrator effect from the differential cues which different test administrators may adopt in the test situation. This appeared to be a necessary condition in the light of an important finding by Smith (1966). He had, in his paper, emphasised the need for standardised conditions of TAT administration for obtaining optimally valid *n* Achievement scores. In all cases some teacher of the school assisted the writer in this work. The TAT was adminstered under 'neutral' condition. Under this condition the imaginative measure of achievement motivation was presented without any attempt to manipulate the motivation of the subjects. For this the writer depended mostly on the normal achievement motivation that each student brought to the test situation without any attempt being made to arouse it or to de-emphasise the importance of the situation.

After ensuring that the seating arrangements were proper, each respondent was given seven sheets of paper with the TAT instructions printed on the front page and four leading questions printed on the six sheets for writing stories in response to the six pictures. The

Table 2.01

The samples of pupils shown by strata and by sex

Sex	Race		Area of residence		Major strata						Achieving status		
					Management			School variables					
								Organisation					
	Tribal	Non-tribal	Rural	Urban	Govt.	Aided	Unaided	Boys'	Girls'	Coed	High	Average	Low
Boys	60	234	57	237	—	206	88	181	—	113	77	136	94
Girls	8	81	24	65	25	64	6	——	53	36	24	48	17
Total	68	315	81	302	25	270	94	181	53	149	101	134	111

leading questions were interspaced with sufficient space to write parts of the story between questions. First the directions (as in McClelland et al., 1953, p.98) were read to the group as follows :

"This is a test of your creative imagination. A number of pictures will be shown to you. You will have twenty seconds to look at the picture and then about four minutes to make up a story about it. Notice that there is one page for each picture. The same four questions are asked. They will guide your thinking and enable you to cover all the elements of a plot in the time allotted. Plan to spend about a minute on each question. I will keep time and tell you when it is about time to go on to the next question for each story. You will have a little time to finish your story before the next picture is shown.

"Obviously there are no right or wrong answers, so you may feel free to make up any kind of a story about the pictures that you see. Try to make them vivid and dramatic, for this is a test of creative imagination. Do not marely describe the picture you see. Tell a story about it. Work as fast as you can in order to finish in time. Make them interesting. Are there any questions ? If you need more space for any question, use the reverse side."

The four leading quesions given were those adapted from Murray (1938) and used extensively with the TAT. They were :

1. What is happening ? Who are the persons ?
2. What has led up to this situation ? That is, what has happened in the past ?
3. What is being thought ? What is wanted ? By whom ?
4. What will happen ? What will be done ?

It was made sure that every one understood the directions. First the subjects wrote as identifying data their names, sex, class, age, school, and the date on which the test was taken. Then they were ready with their answer sheet meant for the first story. The first picture card was placed in front of their seats with picture facing downward. They were instructed to see the picture only when told. Time was kept by a stop watch. At the end of twenty seconds they were asked to put down the picture and to start writing the first story.

Time was reported to them at the end of every minute. At the end of four minutes they were given about twenty seconds before the second picture was presented to them. In this way all the six pictures were given in the order mentioned earlier.

In scoring the TAT stories thus collected, the scoring system C, developed by McClelland et al., (1953) and presented in a manual by Smith and Feld (1958), was followed. Before scoring the stories in the present study the writer practised the scoring method by scoring the sets of sturies given for scoring practice in the Manual (Atkinson, 1958, pp.694–719) and reached an inter-scorer reliability of .89 with expert scoring. His own scoring of a set of stories on two occasions reached an agreement level of .94. The two other scorers who had established reliable levels (not below .94.) of scoring efficiency with the scoring in the Manual (Atkinson, 1958), scored a set of stories used in the present study. Their agreement with the writer's scoring was of the order of .88 and .91 respectively. For the purpose of analysis in the present study the entire set of stories was scored by the writer. In cases of doubt he conferred with one of the two scorers mentioned above in settling the issue.

Each TAT story was first classified as belonging to one of the three imagery categories : Achievement Imagery (AI), Task Imagery (TI), and Unrelated Imagery (UI). Those stories scored as AI were further scored for components of n Achievement, namely, Need (N), Instrumental Activities (I), Goal Anticipation (Ga + and Ga–), Blocks (Bp and Bw), Help or Nurturant Press (Nup), Affect in goal attainment (G+ and G–), and Achievement Thema (Thema). UI was scored –1, TI was scored 0, and AI was scored + 1. The n Achievement score for any one individual was the total of the scores obtained on all six stories written by him.

The AVAI was administered after the answer sheets containing the TAT stories had been collected. The printed instructions with an example of the method to be followed while filling in the blanks were read to them by one of the teachers. They were reminded to mark not more than one alternative in each case and not to leave any item unmarked. There was no strict time limit for this test. While collecting back the filled in test booklets a quick check for omitted items was made.

In case of scoring of the AVAI responses of the subjects strict adherence to the answer-key given by Mehta (1969) was made. This

called for placing each answered response to the test items under AR or TR or UR. A score of 1 was awarded to each response made by the individual subject. The total under each of the three categories AR, TR, and UR, then, formed the scores under those three measures. For each subject the total UR score on the AVAI was used as his score on the Motive to Avoid Failure (MAF) or test anxiety.

The Socio-economic Status Scale forms were then distributed. This called for information relating to the educational qualification, occupation and the nature of work, and the total income of father/ guardians of the respondents. Each item was read to the whole group and explained. They were helped to fill in the different items whenever they expressed difficulty in filling. A few respondents in different schools could not give all the information called for on the day of their test taking. They were allowed to take home the SES Scale forms and to return them on the following day.

Method of Analysis

In the survey part of the study describing the distribution pattern of *n* Achievement and anxiety descriptive statistics was made use of. This was done mostly by reporting the Mean and Standard Deviation values. At relevant places the significance of Mean differences as applied to population parameters is reported.

Another techinque used to describe the pattern of relationships among some of the variables used in the study was the correlation coefficient. Both parametric and non-parametric statistics relevant to reporting relationships between variables were made use of at appropriate places. Here again the obtained correlation coefficients were checked for chance relationship.

The analysis of variance technique (F ratio) was made use of in cases involving more groups. Wherever significant F values were obtained, the t-test was applied to examine further the differences.

Achievement Motive in Tribal and Non-tribal Adolescent Pupils

This chapter deals with the distribution pattern of achievement motivation in the seeondary school pupils of two districts in Assam. The major focus of the study concerns two broad groups of people representing the descendents of different intermingling racial groups. The history of Assam is mostly the life story of an evolving culture architectured through living contacts among the different racial groups who migrated at different points of time to her beautiful hills and valleys. Commenting on the races, religion, and people of Assam, Barua writes :

"It is in this land where races and peoples from different corners and regions across its borders met and lived, and in the process of time, evolved a consolidated pattern with common traditions and aspirations. Through the long columns of history, peoples of different origin and ethnology migrated into this country, fought and rambled in its beautiful valleys and hills, and as the years rolled, fertilised its sinews and arteries into a rich and solid entity. This, in a nutshell, is the history of races and peoples that makes the ethnological map of the country and weaves its distinct pattern." (Barua, 1956, p.42)

The two board groups of people referred to above are the tribals and the non-tribals of Assam Plains. The tribals included in this study belong to the Kachari, Miri and Mech tribes who are members of the early Mongoloid race that migrated to this region via the hills of north-eastern India. These Mongolians, in general, belong to the Tibeto-Burman family of the Indo-Chinese group. Barua (1956, p.59) quoting the authority of Hutton says that "the hill tribes of Assam are inter-related with one another in their ethnology; it is true in the sense that they all belong partly or wholly to the great Indo-Chinese family of peoples.... Whatever the case may be, the fact that these hill tribes belong largely to one vast group of people, i.e. the Mongoloid, gives them an identical stamp of racial traits and ethnology." Over the years the tribals have come closer to non-tribal sections through receiving education and through the availability of improved modes of communication. But through they had occasions to expose themselves to the influences of various religious faiths, majority of them still maintain much of the primitive belief—a sort of 'animism' which means the worship of the different forces of nature seen through its different mainfestations (Pegu, 1956; Barua, 1956). Thus though gradually they are making use of the innovations in modern life to better their living, they have not allowed the temptations of modern living to drift them away from the moorings of tribal culture. Tribal art and culture, and social organisation and traditional institutions are still very strong and vigorous.

The non-tribal people included in the study are mostly non-Mongoloids. Probably they belong to the Aryan race because authentic evidence (Barua, 1956) suggests that as early as the Ramayanic Age, Aryans began to migrate to this region. In terms of religious affiliation the non-tribals included in the study are mostly Caste Hindus. They form the educationally and socially advanced sections and have kept up with the times like other such people elsewhere in the country.

The present chapter reports the results of an area research survey regarding the relationship between achievement motivation and racial, socio-cultural, educational and economic factors. The rationale of the study is akin to that followed in similar studies (McClelland, 1961; Strodtbeck, 1958; Rosen, 1959). Beginning with

a study of the *n* Achievement distribution pattern among school going adolescents belonging to the two broad racial stocks, the research reported here incorporated also the *n* Achievement pattern of the respondents divided into socio-culturally, educationally, and economically unequal groups using criteria like sex, area of residence of the respondents, and the socio-economic status variables as applied to their fathers/guardians. In addition, the relationship of school variables, like the achieving status of the school, management pattern, and school organisation based on sex grouping, with *n* Achievement of pupils was also studied.

The basic premise in most studies on achievement motivation is that it is an acquired personality disposition (McClelland et al., 1953). This theoretical position regarding achievement motive disposition has encouraged research into factors which tend to foster and develop such a disposition. The results of such researches have helped to highlight the probable causes of individual differences in the strength of this motive. One of the first such systematic studies was by Winterbottom (1958) who found family variables like independence training and mastery training of children as positively related to the development of this motive in them. This finding has provided support to other findings regarding child rearing practices at home and *n* Achievement of boys in certain cultures (McClelland and Friedman, 1952; Child, Storm and Veroff, 1958), and in boys and girls in other cultures (Barry, Bacon, and Child, 1957; Sears, Maccoby and Levin, 1957). Apart from these direct child rearing influences exerted by the parents, there are other influences having an effect on *n* Achievement because they modify child rearing practices. The number of such influences may be large and will differ from place to place and from time to time. Among those studied are factors connected with race, religion and ethnicity (Strodtbeck, 1958; Rosen and D'Andrade, 1959; McClelland, 1958; Fraser, 1961; Tamhankar, 1967; Srivastava, 1968), social class (Rosen, 1959; Douvan, 1956; Ericson, 1947; Mehta, 1969; Chaudhary, 1972), and factors in the educational situation (Mehta, 1969). Many of the results from these studies are compared with findings obtained in the present study at appropriate places in the text.

A SOCIO-CULTURAL, AND ECONOMIC FACTORS
AND *n* ACHIEVEMENT

n Achievement of Tribals and Non-Tribals

A comparison was made of the tribal and non-tribal pupils in terms of their mean *n* Achievement scores. The results appear in Table 3.01.

Table 3.01

Mean *n* Achievement by Tribal and Non-tribal Groups

| Groups | N | *n Achievement scores* | | t | p |
		Mean	*SD*		
Tribal	68	5.55	6.40	1.646	.10
Non-tribal	315	4.49	5.70		

The mean score was in favour of the tribal pupils and the difference of the means was statistically significant (p $\angle$ .10). The tribal pupils as a group thus showed a greater level of achievement motivation than the non-tribal pupils. The results obtained in a recent study conducted at the Unit of Tribal Education, N.C.E.R.T. (1970) and another study conducted at Shillong (Lyngdoh, 1975) also showed similar trends.

n Achievement by Sex

The mean *n* Achievement scores of boys and girls are given in Table 3.02. The mean score was in favour of girls and the difference of the means between boys and girls was statistically significant. There was thus a real sex difference in the achievement motivation levels.

Table 3.02

Mean *n* Achievement by Sex

| Sex group | N | *n Achievement scores* | | t | p |
		Mean	*SD*		
Boys	294	4.48	5.79	1.802	.05
Girls	89	5.80	7.08		

Comparative data on achievement motivation in girls are so little that any attempted synthesis at this stage would be premature. The few researches where a direct comparison of n Achievement levels in boys and girls was made showed different trends. Thus Veroff (1950), and Veroff, Wilcox and Atkinson (1953) found higher n Achievement scores in case of girls when the TAT type test was administered under neutral conditions. Sinha (1967) using self-describing essays for assessing n Achivement, found male students to have higher mean n Achievement scores than females. Chaudhary (1972) using a sample of secondary school students from the Punjab, and Lyngdoh (1975) using a college sample of students from Megha-laya found girls showing considerably higher n Achievement scores than boys, while Desai (1970) found it in favour of boys in his Gujarat sample of secondary school students. The last three studies referred to above used the same TAT type pictures for measuring n Achievement levels as were used in the present study.

With a view to checking for overlap of the racial and sex factors the entire sample of respondents was grouped using both these factors simultaneously. The mean n Achievement scores of these groups were then compared. These results appear in Table 3.03.

Table 3.03

Mean n Achievement Scores of Tribal and Non-tribal Groups by Sex

Group	N	n Achievement scores		Mean		
		Mean	SD	differences	t	p
1. Boys	60	5.95	6.32	1 & 2	1.310	n.s.
Tribal						
2. Girls	8	2.87	5.66	1 & 3	2.442	.02
3. Boys	234	3.92	5.59	3 & 4	3.030	.01
Non-tribal						
4. Girls	81	6.12	6.16	2 & 4	1.435	n.s.

Within the tribal group, boys showed greater mean n Achievement score than the girls, but the difference was not statistically significant. But the non-tribal girls showed significantly greater mean score than the non-tribal boys. Tribal boys obtained significantly greater mean n Achievement score than the non-tribal boys,

but the girls in the tribal and non-tribal samples did not show any significant difference in their n Achievement levels.

The results pointed to several things : The greater n Achievement level seen in tribal pupils applied to both boys and girls in the tribal sample. The comparatively low mean score among tribal girls might have been due to the small number of girls in the tribal sample. Sex factor did not very much affect their n Achievement score. The tribal pupils' n Achievement level was greater than the non-tribal boys, but it was not different significantly from the n Achievement level of non-tribal girls.

The total sample of respondents appeared to fall into two distinct n Achievement level groups : tribal boys and girls, and the non-tribal girls with greater n Achievement level formed the first group, while the non-tribal group of boys with a significantly lower level of n Achievement formed the second group.

n Achievement by Area of Residence

Area of residence might work as an important criterion of the level of development attained by a particular locality, and hence an important influence in the development of its people. If a broad classification of areas of residence can be made into rural and urban, major part of Assam will fall under the former category. Like other parts of India the rural economy of Assam is dominated by agriculture (leaving aside tea plantation). These areas have, for a long time, remained backward due to general illiteracy, poverty and poor communication facilities. The result is that the economy of the rural areas has remained stagnant for a long time. Since independence, however, through priority schemes in the national plans these areas have received considerable attention of the State. Of special interest is the work of the Community Development blocks, each of which has a well knit team of officers to look after agriculture, health and sanitation, adult education, rural industries and other aspects of rural improvement programmes. These blocks aim at effecting a general plan of improvement of rural areas with special attention given to modernising the rural economy to generate more wealth to give a better standard of living to rural people. It is essentially an experiment in social change in rural areas.

Table 3.04 shows the mean n Achievement of rural and urban subjects. Rural subjects obtained greater mean n Achievement score

and the difference between rural and urban subjects' mean scores was statistically significant at the 10% level.

Table 3.04

Mean *n* Achievement Scores by Area of Residence

Area of residence	N	n Achievement score		t	p
		Mean	SD		
Rural	81	5.58	6.21		
				1.524	.10
Urban	302	4.57	6.19		

The rural-urban classification was further sub-divided into the two sex groups to study the independent effect of the two factors on *n* Achievement of the subjects. These results appear in Table 3.05.

Table 3.05

Mean *n* Achievement by Area of Residence and by Sex

Area of residence	Sex	N	n Achievement scores		Mean differences	t
			Mean	SD		
Rural	1. Male	57	5.78	6.38	1 & 2	0.460
	2. Female	24	5.08	5.98	2 & 4	0.580
Urban	3. Male	237	4.25	5.72	1 & 3	1.950*
	4. Female	65	6.07	7.48	3 & 4	2.160**

* p $<$ .05, ** p $<$ .025

The results showed that the boys and girls in the rural sample did not significantly differ in their mean *n* Achievement scores. But within the urban sample girls showed significantly greater achievement striving than boys. Rural males also showed significantly greater *n* Achievement level than their urban counterparts, but the girls in the two groups did not show any significantly different result. It thus followed that the rural group as a whole showed greater achievement motivation level than the urban boys. It meant that there are two distinct groups of subjects differing significantly in their mean *n* Achievement: the rural boys and girls and the urban girls forming

one group that showed no significant difference in their levels of achievement motivation and the second group was formed with the urban boys who showed significantly lower n Achievement level than the first group.

The findings reported here separated the influence of sex variable and brought out the independent effect of area of residence on achievement motivation of their residents. This analysis remained inconclusive because of the probable cross-effect of tribal factor as it affected the n Achievement level of pupils. Therefore the data on n Achievement of the rural-urban pupils was recast to include the tribal element. As the tribal sample included only 8 girls, the present analysis of results was made with the data on boys only. Table 3.06 shows these results.

Table 3.06

Mean n Achievement of Tribal and Non-Tribal Boys by Area of Residence

Group	N	n Achievement scores Mean	SD	Mean differences	t	p
1. Tribal	16	5.87	6.96	1 & 2	0.623	n.s.
Rural						
2. non-tribal	41	4.73	5.99	2 & 3	1.059	n.s.
3. Tribal	44	5.98	4.90	3 & 4	2.563	.02
Urban						
4. Non-tribal	193	3.75	5.47	1 & 4	1.479	.20

The tribal boys in the rural and urban samples exhibited more or less the same level of achievement motivation. The non-tribals in the rural sample showed insignificantly greater n Achievement level than their urban counterparts. The tribal and non-tribal boys in the rural sample did not show significant differences in their n Achievement levels, but their urban countreparts showed significant difference. The rural tribal boys obtained greater mean n Achievement score than the urban non-tribal boys, the difference being only slightly significant (p $\angle$.20).

The trend in the results appeared to show the following : the tribal pupils, particularly the boys, irrespective of the areas of their residence possessed a higher level of n Achievement than the non-tribals, and the non-tribals with a rural background came close to the tribals in either group. This suggested that the rural background tended to produce greater achievement striving in the high school boys. This finding may have some implication for the process of urbanisation that is fast spreading its tentacles to the rural areas. The finding reported here shows that the relationship between urbanisation and n Achievement of boys is an inverse one. This trend may affect the future development of the areas which are becoming urbanised because the 'urge to improve' (need for achievement) in the boys from the urbanised areas begins to fall.

Socio-Economic Status Variables and n Achievement

All the discussion thus far did not take into account the socio-economic background of the respondents. In several previous studies (Rosen, 1956; 1961; Douvan, 1956; McClelland, 1961) it was found that certain levels of socio-economic status were positively related to achievement motivation. In most of the previous studies the upper-middle and upper SES classes are shown to exhibit a distinctly higher n Achievement level. There is also evidence (Strodtbeck, 1955) to show that fathers with higher SES backgrounds set higher standards of independence and achievement for their sons. In two Indian studies (Mehta, 1969; Chaudhary, 1972), however, n Achievement of high school pupils was found to be not related to SES of their fathers. In the background of such diverse findings in this area of research it was decided to study the relationship between SES background variables of the respondents in the present study and their n Achievement level. The findings of the earlier sections suggested that the respondents be grouped on the basis of race, sex, and area of residence variables. Wherever possible such groupings were made and the relationship between n Achievement and SES background was studied in each case.

In case of the urban respondents a composite SES acore was obtained for each pupil by combining information gathered regarding the educational, occupational, and income status of their fathers (or guardians). The scoring was done following the method suggested in Kuppuswamy's (1962) SES (Urban) Scale. The finer scale positions suggested in his SES Scale were, however, reduced to three by

combining classes I and II into one, by retaining III to form the second and by combining the classes IV and V to form the third. The three modified scale positions used in the present study were tentatively called 'high', 'middle', and 'low' groups on the SES continuum. For the rural respondents SES data were available only relating to the educational and income variables, and therefore, no attempt was made to find out a composite SES score in their case.

In Tables 3.07 and 3.08 are shown the results relating to the SES status and n Acheivement of urban boys and girls respectively.

Table 3.07

Mean n Achievement Scores by SES Classes of Urban Boys

SES class	N	n Achievement scores	
		Mean	SD
High	23	6.04	6.94
Middle	89	4.08	6.12
Low	125	3.48	5.85

Table 3.08

Mean n Achievement Scores by SES Classes of Urban Girls

SES class	N	n Achievement scores	
		Mean	SD
High	17	6.76	6.71
Middle	89	6.44	7.20
Low	10	3.50	6.12

The results indicated that the absolute mean n Achievement scores of the three SES groups exhibited similar pattern of relationship in two sex groups : a more or less linear relationship that showed increases in the mean n Achievement scores when moved from low to high SES classes. However the analyses of variance did not yield on F value large enough to statistically accept the differences (Tables 3.09 and 3.10).

Table 3.09

Analysis of Variance in *n* Achievement Scores by Urban Boys' SES Classes

Source	df	SS	MSS	F	p
Between SES classes	2	129.64	64.82		
				2.022	n.s.
Within SES classes	234	7499.76	32.05		
Total	236	7629.40			

Table 3.10

Analysis of Variance in *n* Achievement Scores by Urban Girls' SES Classes

Source	df	SS	MSS	F	p
Between SES classes	2	79.66	39.83		
				0.702	n.s.
Within SES classes	62	3512.96	56.66		
Total	64	3292.62			

The lack of relationship between SES background and *n* Achievement level of the respondents could probably be due to the interference of the tribal variable. It was therefore decided to recast the data for SES by separating the tribal group from the non-tribals. The number of tribal girls being small they were not included in the analysis. The results in the case of boys appear in Tables 3.11 and 3.12.

The sample of urban tribal boys included in the study did not contain a single case with high SES background. As all tribal pupils studying in a selected school were included in the sample of the present study, there was no chance for bias in the tribal sample. Assuming that the present sample contained a truly representative sample of high school going tribal boys, the absence of any tribal boy with high SES background appeared to show the general socio-economic backwardness of these sections of people. From Tables 3.11 and 3.12 it was seen that the *n* Achievement levels of the tribal boys from the middle and low SES groups were comparatively higher, they being

Table 3.11

n Achievement by SES of Urban Tribal and Non-tribal Boys

| | Urban tribal boys | | | Urban non–tribal boys | | |
| | n Achievement scores | | | n Achievement scores | | |
SES class	N	Mean	SD	N	Mean	SD
1. High	–	–	–	23	6.04	6.94
2. Middle	8	6.50	7.63	81	3.84	5.66
3. Low	36	5.86	4.04	89	2.51	4.78

Table 3.12

Mean n Achievement Differences of Urban Tribal and Non-tribal Boys with Different SES Backgrounds

	SFS groups	t	p
1.	Between high SES and middle SES non-tribal boys	1.582	.20
2.	Between high SES and low SES non-tribal boys	2.869	.01
3.	Between middle SES and low SES non-tribal boys	1.681	.10
4.	Between middle SES tribal and non-tribal boys	1.231	n.s.
5.	Between middle SES non-tribal and low SES tribal boys	1.923	.10
6.	Between low SES non-tribal and middle SES non-tribal boys	2.145	.05
7.	Between low SES non-tribal and tribal boys	3.693	.001

not significantly different from the n Achievement level of non-tribal urban boys from the high SES background. Moreover the mean n Achievement scores of tribal boys from the middle and low SES backgrounds were significantly greater than the mean score of non-tribal urban boys from the low SES background. The middle SES background boys from the two sections did not differ significantly in their

n Achievement levels. Within the group of urban tribal boys the middle and low SES groups did not differ in their mean *n* Achievement levels. Within the non-tribal urban group of boys from different SES backgrounds there were from slightly to very significant differences in the mean *n* Achievement levels. The urban non-tribal boys from the three SES groups showed a more or less linear pattern in their *n* Achievement levels, the greatest mean score being shown by the high SES group. These results thus indicated that the same SES level showed different *n* Achievement levels in the two racial groups. The tribal factor appeared to function as a more important determinant of achievement strivings than SES background in high school going urban tribal boys. But within the urban non-tribal group, boys from high SES background showed significantly greater *n* Achievement than boys from middle and low SES backgrounds.

n Achievement by Educational Status of Father

Data relating to the educational and income backgrounds were available for all pupils. It was decided to study the independent effect of these two SES variables on *n* Achievement.

On the basis of the educational qualification of fathers the respondents were classified into three educational status groups : High, Middle, and Low. The 'High' groups included children of fathers with professional or semi-professional education or university education of at least the first degree standard; the 'Middle' group pupils had fathers with high school or college education of a below degree standard; and the 'Low' group included children of fathers with education up to middle school stage and below.

Table 3.13 shows the mean *n* Achievement scores of all the boys in the sample according to their fathers' educational status.

Table 3.13

Mean *n* Achievement of Boys by Fathers' Educational Status

Educational status	N	*n* Achievement scores	
		Mean	SD
High	18	5.16	5.64
Middle	82	4.73	10.93
Low	194	3.92	6.05

The results apparently showed a linear type relationship between educational status of fathers and achievement motivation in their children, but the F-test showed that the mean differences were not significant. Thus the result noted by McClelland et al (1955) that showed significantly greater *n* Achievement of boys associated with higher educational backgrounds of their fathers was not obtained in the present study. The result reported by Mehta (1969) that showed the relationship between *n* Achievement in high school boys and the educational status of their fathers as following a v-shaped pattern curve was also not obtained here. Table 3.14 shows the F-test results.

Table 3.14
Analysis of Variance in *n* Achievement Scores of Boys by Educational Status

Source	df	SS	MSS	F	p
Between groups	2	25.13	12.57	0.367	n.s.
Within groups	201	9967.96	34.25		
Total sum	29ɔ	9993.09			

Tables 3.15 and 3.16 show the result obtained showing the relationship between the educational background of fathers and the *n* Achievement levels of their daughters. The absolute mean score was greatest in case of the 'High' group of girls followed by 'Low' and 'Middle' groups in that order. Apparently the relationship approximated a v-shaped pattern. But the mean differences were not statistically different which suggested that girls with different parental educational backgrounds did not actually differ in their *n* Achievement levals.

Table 3.15
Mean *n* Achievement of Girls by Fathers' Educational Status

Educational status	N	*n* Achievement scores	
		Mean	SD
High	20	7.25	7.83
Middle	40	5.35	7.55
Low	29	5.96	6.49

Table 3.16

**Analysis of Variance in *n* Achievement Scores of Girls by Fathers'
Educational Status**

Source	df	SS	MSS	F	p
Between groups	2	48.14	24.07		
Within groups	86	4581.82	53.27	0.451	n.s.
Total	88	4629.82			

In order to check for any overlapping effect due to area of residence variable the data on educational status of fathers and the *n* Achievement level in children were separated into rural and urban sub-groups. These results for boys and girls appear in Tables 3.17 and 3.18.

Table 3.17

**Mean *n* Achievement of Boys by Area of Residence and by Fathers'
Educational Status**

Educational Status		Urban			Rural	
	N	*n* Achievement scores		N	*n* Achievement scores	
		Mean	SD		Mean	SD
High	18	5.16	5.12	–	–	–
Middle	68	4.28*	5.66	14	6.92	5.40
Low	151	3.80**	5.66	43	4.35	6.03

*Urban Middle vs. Rural Middle, t = 1.539, p $\angle$ .20
**Urban Low   vs. Rural Middle, t = 1.987, p $\angle$ .05

The three educational status groups of boys from the urban areas generally showed a linear pattern of result, but there were no significant differences in their mean *n* Achievment levels. In the rural sample there was no boy student with 'High' educational status father. The 'Middle' and 'Low' groups of rural boys did not show any significant difference in their achievement strivings. But the 'Middle' educational status rural boys who obtained the greatest absolute mean *n* Achievement score, showed sightly significant difference over their urban counterparts. They also exhibited significantly greater *n* Achievement level than the 'Low' educational status urban boys.

Table 3.18

Mean *n* Achievement of Girls by Area of Residence and by Fathers' Educational Status

Educational Status	Urban			Rural		
	N	*n Achievement scores*		N	*n Achievement scores*	
		Mean	SD		Mean	SD
High	19	7.42	8.26	1	4.00	–
Middle	31	6.00	7.83	9	3.11	4.66
Low	15	5.46	6.23	14	6.50	6.43

It the case of girls with different parental educational backgrounds, the urban sample appeared to exhibit a somewhat linear pattern of mean *n* Achievement scores and the rural sample appeared to exhibit a v-shaped pattern. But none of the mean differences yielded statistically significant t values.

Any possible overlap due to the tribal influence in the relationship between *n* Achievement in boys and the educational status of their fathers was further examined and the results are shown in Table 3.19.

Table 3.19

Mean *n* Achievement of Tribal and Non-Tribal Boys by Fathers' Educational Status

Educational status	N	Tribal		Non-tribal		
		n Achievement scores		N	*n Achievement scores*	
		Mean	SD		Mean	SD
High	1	4.00	–	17	5.22	7.55
Middle	6	6.50*	7.41	76	4.59	5.20
Low	53	5.90**	6.08	141	3.17	4.18

*Tribal Middle vs. Non-tribal Low, t = 1.834, p ∠ .10
**Tribal Low vs. Non-tribal Low, t = 3.625, p ∠ .001

The tribal sample contained only one boy with 'High' educational status father. The three educational status groups within either the tribal or the non-tribal group did not show any significant differences in their mean *n* Achievement. Comparisons made across the tribal-non-tribal groups showed that both the 'Middle' and 'Low' educational status tribal boys had greater mean *n* Achievement scores than the 'Low' educational status non-tribal boys. This also meant that the two lower educational status groups of tribal boys did not differ from the 'High' and 'Middle' educational status groups of non-tribal boys. Thus the different educational status groups of tribal boys functioned as a single *n* Achievement score group which showed greater achievement strivings than the 'Low' educational status non-tribal boys.

n Achievement and Fathers' Income *

On the basis of data collection relating to monthly income of fathers of the respondents, four income groups wers formed as follows:

Group   I : Monthly income of Rs. 750/- and above
Group   II : Monthly income betv een Rs. 300/- and Rs. 749/-
Group III : Monthly income between Rs. 101/- and Rs. 299/-
Group VI : Monthly income of Rs. 100/- and below.

In Table 3.20 are shown the mean *n* Achievement and SD values for all the boys in the total sample classified according to the fathers' monthly income. The F-test revealed no significant difference among the means of the different groups, although the subjects belonging to the highest income group did show somewhat greater mean *n* Achievement score (Table 3.21).

Table   3.20

Mean *n* Achievement by Fathers' Income Groups for Boys

Income group		N	*n* Achievement scores	
			Mean	SD
Group	I	10	7.90	7.29
Group	II	67	4.35	6.83
Group	III	131	3.90	6.84
Group	IV	86	4.03	4.82

*Data on income relate to 1968–69

Table 3.21

Analysis of Variance in *n* Achievement Scores by Fathers' Income Groups

Source	df	SS	MSS	F	p
Between groups	3	177.79	59.17	1.759	n.s.
Within groups	290	9754.96	33.63		
Total	293	9932.75			

Tables 3.22 and 3.23 show the results for girls classified under the four income groups. The F-test showed that the means of the four groups did not differ significantly.

The results on the total sample thus revealed that income background of fathers had no definite relationship to *n* Achievement level in their childern. In order to examine this relationship further, the four income groups were divided into the two areas of residence groups first and then into the two racial groups. This made it possible to evaluate any probable influence exerted by the two variables of area of residence and race.

Table 3.22

Mean *n* Achievement of Girls by Fathers' Income Groups

Income groups	N	n Achievement scores	
		Mean	SD
Group I	7	4.71	6.87
Grovp II	38	7.26	6.89
Group III	35	4·65	7.38
Group VI	9	5.00	6.94

Table 3.23

Analysis of Variance in *n* Achievement Scores by Fathers' Income Groups

Source	df	SS	MSS	F	p
Between groups	3	141.07	47.02		
Within groups	85	4276.69	50.31	0.934	n. s.
Total	88	4417.76			

Table 3.24 shows the achievement motivation level in rural and urban boys classified into the four income groups. In the income Group I there was no rural boy. This might be considered as a

Table 3.24

Mean *n* Achievement Scores of Rural and Urban Boys Classified by Fathers' Income Status

Income group	Urban			Rural		
	N	*n* Achievement scores		N	*n* Achievement scores	
		Mean	SD		Mean	SD
Groug I	10	7.90	7.29	—	—	—
Group II	56	3.96	6.05	11	6.36	5.63
Group III	108	3.30	5.67	23	6.73	7.04
Group IV	63	4.44	3.90	23	2.91	5.02

probable indicator of the general poverty conditions prevailing in the rural areas. The difference in the mean scores of different groups were checked for significance and these results appear in Table 3.25.

Table 3.25

***n* Achievement Mean Differences of Boys by Area of Residence and by Fathers' Income Status**

Mean differences	t	p
1. Between urban groups I and III	2.408	.02
2. Between urban groups I and II	1.849	.10
3. Between urban groups I and IV	2.291	.05
4. Between rural groups II and IV	1.396	n.s.
5. Between rural groups III and IV	1.827	.10
6. Between urban group I and rural group IV	1.827	.10
7. Between urban group III and rural group III	2.522	.02
8. Between urban group II and rural group III	1.775	.10
9. Between urban group III and rural group II	1.709	.10

It was evident from the results that the urban Group I boys obtained significantly greater mean *n* Achievement score than the other three urban income groups of boys. Within the rural sample

of boys the income Group IV showed lower mean n Achievement score than the income Group III and the difference was slightly significant. The urban Group I boys also showed higher mean n Achievement than the rural Group IV boys and the difference was slightly significant. The rural Group III boys obtained slightly greater mean score than the urban Groups II and III. The Group II boys from rural background showed significantly greater ($p \angle .10$) mean than the urban Group III.

Among the urban groups the highest income group obtained significantly greater n Achievement score than the other income groups. Within the rural groups, only the lowest income group boys showed a somewhat lower n Achievement level. A somewhat lower middle income background appeared to be associated with greater n Achievement level in rural boys in the same manner as a high income background is associated with such n Achievement level in urban boys.

In Table 3.26 are shown the corresponding results in case of rural and urban girls. The results did not reveal any definite pattern of relationship between n Achievement level in girls from rural and urban fathers' income backgrounds because none of the differences in the mean n Achievement levels yielded significantly high t values.

Table 3.26

Mean n Achievement Scores of Rural and Urban Girls Classified by Fathers' Income Statns

Income Groups	Urban			Rural		
	N	n Achievement scores		N	n Achievement scores	
		Mean	SD		Mean	SD
Group I	7	4.71	6.87	—	—	—
Group II	30	7.73	6.53	8	5.50	5.20
Group III	22	4.54	8.06	3	1.66	3.40
Group IV	6	5.00	6.63	13	5.61	6.42

In order to check for probable overlap of fathers' income background with the tribal factor as affecting achievement motivation, the data on boys were recast as shown in Table 3.27.

Table 3.27

Mean *n* Achievement Scores of Tribal and Non-Tribal Boys Classified by Fathers' Income Groups

Income group	Tribal			Non–tribal		
	N	*n Achievement scores*		N	*n Achievement scores*	
		Mean	SD		Mean	SD
Group I	—	—	—	10	7.90	7.29
Group II	7	7.71	7.48	60	3.96	5.73
Group III	28	6.71	7.0)	103	3.15	5.61
Group IV	25	4.64	4.56	61	3.78	4.87

There was no tribal boy in the income Group I. In both tribal and non-tribal groups the mean *n* Achievement scores became smaller when moved from higher to lower income groups. The drop in the mean was more prominent in the case of the non-tribal boys. In Table 3.28 the inter-group and the intra-group mean score differences among different groups of boys from the tribal and the non-tribal sections are shown.

Table 3.28

n Achievement Mean Differences of Boys by Race and Fathers' Income Status

Mean differences	t	p
1. Between Tribal groups II and IV	1.351	n.s.
2. Between Non-tribal groups I and II	1.950	.10
3. Between Non-tribal groups I and III	2.500	.02
4. Between Non-tribal groups I and IV	2.314	.02
5. Between Tribal group II and Non-tribal group II 1.595		n.s.
6. Between Tribal group II and Non-tribal group III 2.044		.05
7. Between Tribal group II and Non-tribal group IV 1.917		.10
8. Between Tribal group IV and Non-tribal group I 1.605		n.s.
9. Between Tribal group III and Non-tribal group II 1.950		.10
10. Between Tribal group III and Non-tribal group III 2.825		.01
11. Between Tribal group III and Non-tribal group IV 2.289		.05

The three income groups within the tribal section of boys did not show any significant difference in their mean n Achievement levels. But within the non-tribal section, boys from income group I showed significantly greater mean n Achievement score than each one of the other income groups. However, these three lower income groups of non-tribal boys did not differ from one another in their levels of achievement motivation. It appeared, therefore, that the three tribal groups, irrespective of their fathers' income status, behaved as if they had all the same level of achievement motivation, whereas within the non-tribal groups, the highest income group boys showed definitely greater n Achievement level than the other income groups. Income of father appeared in some way related to the n Achievement level of sons in non-tribal sections, but it was not so in tribal sections. None of the three income groups of tribal boys differed significantly from the income Group I of non-tribal boys. But Group II tribal boys showed significantly greater mean n Achievement score than the non-tribal income groups III and IV. Similarly Group III tribal boys showed significantly greater n Achievement level than the three non-tribal income Groups II, III, and IV. This suggested that the tribal boys from each of the income groups showed considerably greater n Achievement, and in many cases, their achievement motivation far exceeded that of non-tribal boys from the upper-middle, lower-middle and the lower income groups.

n Achievement and Occupational Status of Father

In case of the urban respondents data were available relating to the occupational status of their fathers. The mode of occupational classification followed here involved a slight modification of the occupational categories given in Kuppuswamy's (1962) SES manual (urban). In the modified form there were five occupational categories into which the urban respondents were grouped :

1. Professional, 2. Semi-professional, 3. Clerical, farm and shop owners, 4. Skilled worker, 5. Semi-skilled and unskilled worker, and the unemployed.

In Table 3.29 are shown the mean and SD of n Achievement scores of boys classified according to their fathers' occupations.

Table 3.29

Mean *n* Achievement by Fathers' Occupational Status for Boys

Occupational group	N	n Achievement scores	
		Mean	SD
1. Professional	7	7.28	8.82
2. Semi-professional	16	5.06	6.10
3. Clerical, shop and farm owners	80	4.10	6.29
4. Skilled worker	40	4.12	5.14
4. Semi-skilled, and unskilled worker, and unemployed	94	3.37	4.58

The boys of the professional fathers showed the greatest *n* Achievement level, and boys of semi-skilled workers and those of the unemployed showed the lowest level. The other categories came in between. However, the mean differences were not statistically significant (Table 3.30).

Table 3.30

Analysis of Variance in *n* Achievement Scores of Boys by Fathers' Occupational Groups

Source	df	SS	MSS	F	p
Between groups	4	130.73	32.68	0.991	n.s.
Within groups	232	7646.17	32.95		
Total	234	7776.90			

The *n* Achievement score pattern for girls arranged according to their fathers' occupations appears in Table 3.31. The trend in the distribution of the mean scores was more or less similar to the trend noticed in the case of boys. However, the *n* Achievement levels of girls in the different occupational categories did not show any significant difference (Table 3.32).

Table 3.31

Mean *n* Achievement by Fathers' Occupational Status for Girls

Occupational group	N	n Achievement scores	
		Mean	SD
1. Professional	5	8.00	8.42
2. Semi-professional	11	7.54	7.67
3. Clerical, shop and farm owners	33	6.45	8.03
4. Skilled worker	7	4.14	5.30
5. Semi-skilled and unskilled worker	9	3.33	6.51

Table 3.32

Analysis of Variance in *n* Achievement Scores of Girls by Fathers' Occupational Groups

Source	df	SS	MSS	F	p
Between groups	4	140.84	35.21		
Within groups	60	3451.78	57.52	0.612	n.s.
Total	64	3592.62			

The results reported here tended to show that the urban group of secondary school boys and girls from different occupational backgrounds, taken as a group, did not differ in their level of achievement motivation. This finding appeared to differ from the findings of other researchers. Thus McClelland (1961) reported results from several countries that showed a significantly high *n* Achievement level among businessmen and professionals. Tamhankar (1967) reported a finding showing greatest mean *n* Achievement among urban school boys from medium business class background. His finding was similar to the one reported by Fraser (1961) with rural Orissa boys. Of course, direct comparison of these results with those of the present study might be in error owing to a major limitation in the present study sample. Medium and big business entrepreneurs in Assam are mostly non-Assamese speaking people whose children attend schools mostly with non-Assamese media of instruction. Children of these groups were not included in the present study. So the comparison might have yielded only a part of the total possible results.

The urban group of boys included here contained both tribals and non-tribals. Since tribal element was considered a probable dependent variable of *n* Achievement, it was decided to separate tribal and non-tribal boys and to study the relationship between occupational background and *n* Achievement in each case separately. These results appear in Table 3.33.

Table 3.33

Mean *n* Achievement Scores of Tribal and Non-tribal Urban Boys Classified according to Fathers' Occupational Groups

Occupational group	Tribal			Non-tribal		
	N	*n Achievement scores*		N	*n Achievement scores*	
		Mean	SD		Mean	SD
1. Professional	–	–	–	7	7.28	8.82
2. Semi-professional	2	13.00	–	14	3.92	4.69
3. Clerical, shop and farm owners	6	6.83	6.28	74	3.87	5.50
4. Skilled worker	7	6.57	4.40	33	3.60	5.31
5. Semi-skilled and unskilled worker and the unemployed	29	5.15	5.93	65	2.58	3.94

The urban tribal sample contained no boy with father from a profession ; it contained only two cases with a semi-professional background. The lowest category alone accounted for about one half of the total urban tribal boys. This again indicated the relatively low occupational status of the tribal boys from urban areas. The non-tribal urban boys, on the other hand, came from all shades of the occupational hierarchy.

The *n* Achievement levels of the tribal boys from the different occupational groups did not differ significantly (Table 3.34). This indicated that these boys functioned as a single larger group, all of whose members exhibited the same level of achievement motivation. Within the non-tribal groups, however, professional group of boys showed significantly greater *n* Achievement than boys of the semi-skilled/unskilled workers and the unemployed. This indicated that

a professional background of father probably contributed more to the development of *n* Achievement in urban, non-tribal boys than did a background where the father was either a semi-skilled/unskilled worker, or unemployed. Tribal-non-tribal comparisons made revealed that boys from all the three tribal occupational groups used in the analysis showed significantly greater *n* Achievement level than the lowest occupational category non-tribal boys.

Table 3.34

n Achievement Mean Differences of Tribal and Non-Tribal Urban Boys by Fathers' Occupational Status

Mean differences	t	p
1. Between non-tribal professional and clerical, farm and shop owners	1.489	n.s.
2. Between non-tribal professional and skilled worker	1.477	n.s.
3. Between non-tribal professional and semi-skilled and unskilled worker and the unemployed	2.596	.02
4. Between tribal clerical, shop and farm owners and non-tribal skilled worker	1.360	n.s.
5. Between tribal clerical, shop and farm owners and non-tribal unskilled and semi-skilled worker and the unemployed	2.374	.05
6. Between tribal skilled worker and non-tribal semi-skilled and unskilled worker and the unemployed	1.789	.10
7. Between tribal and non-tribal semi-skilled and unskilled worker and the unemployed	2.539	.02

The results thus indicated that occupational background of father did not show any relationship to *n* Achievement of urban tribal boys. But in case of urban non-tribal boys, a professional background appeared to be more helpful for *n* Achievement

development in them than a relatively lower status occupational background such as that of semi-skilled/unskilled worker and the unemployed with the intermediate occupational groups coming in between.

B. SCHOOL VARIABLES AND *n* ACHIEVEMENT

Do the variables in the school scene influence the strength of *n* Achievement of the secondary school respondents ? There is not much past reasearch in this area to guide to indentify these school factors. So in the present study a tentative selection of three such factors known to affect directly or indirectly the student community was made. There were (i) an organisational factor namely, sex-based school organisation, (ii) an administrative factor denoted by the type of governance of the school, and (iii) an academic factor represented by the cumulative academic results of a school.

The mean *n* Achievement scores of students from different types of schools are shown in Table 3.35.

Table 3.35

Mean *n* Achievement Scores by Schools

| School | N | n Achievement scores | |
		Mean	SD
1. B.SS—1	37	4.16	5.86
2. B.SS—2	19	2.10	5.07
3. C.SS—1	17	6.88	4.76
4. B.SS—3	21	6.09	6.15
5. C.SS—2	21	6.28	7.38
6. B.SS—4	29	4.72	5.82
7. G.SS—1	16	10.87	9.55
8. G.SS—5	38	2.42	6.61
9. G.SS—2	12	3.91	6.45
10. G.SS—3	25	4.20	5.71
11. C.SS—3	24	6.37	7.31
12. B.SS—6	37	3.29	5.32
13. C.SS—4	56	3.92	5.90
14. C.SS—5	31	6.51	4.92

n Achievement of Schools by Sex-based Organisation

There were boys' schools, girls' schools and co-educational schools in the sample. The factor of sex-based school organisation was taken up for study because the question of adolescent class groupings on the basis of sex is very much alive even today. The advocates of co-educational secondary schools often take the view that such schools being miniature adolescent societies, would help their members through social intercourse to grow into responsible adult members of the society outside school. Underlying this line of thinking is the assumption that the presence of both the sexes in a secondary school does not act as a hindrance to the full development of the members of either sex. The opponents of co-educational secondary schools, on the other hand, find in such school organisation a distracting force, coming from adolescent sex energy, that might interfere with the achievement efforts of adolescents. So they recommend separate schools for boys and girls during adolescence stage.

Table 3.36 shows the mean n Achievement scores of pupils by sex-based school organisation.

Table 3.36

Mean n Acheivement by Boys', Girls' and Co-educational Schools

School organisation	N	n Achievement scores		Mean diffe-rence	t	p
		Mean	SD			
1. Boys' school	181	3.66	5.81	1 & 2	2.770	.01
2. Girls' school	53	6.37	7.68	2 & 3	0.768	n.s.
3. Co-edcuational school	149	5.59	5.92	1 & 3	3.086	.01

The mean n Achievement of pupils in girls' schools and co-educational schools did not show any significant difference. But the pupils in boys' schools showed significantly lower n Achievement level than those in co-educational schools and girls' schools. This indicated that students reading in co-educational

secondary schools probably did not suffer from any distracting influences arising out of such organisation. On the contrary, boys studying in co-educational schools scored significantly more than boys in unmixed boys' schools. The girls in girls' secondary schools and those in co-educational schools did not show any significant difference in their need for achievement. This indicated that there was probably sex difference in the reactions of boys and girls to the type of sex-based organisation as it affected their achievement strivings.

n Achievement of Schools by Management

The schools included in the present study belonged to three types of management : (i) Government-run secondary schools, (ii) government-aided private secondary schools, and (iii) unaided private secondary schools. The type of school management was thought to affect the general level of n Achievement of children because of differences in teaching-learning and working climate in schools.

The government-run secondary schools are rather few. They are maintained as model institutions at relatively greater cost to the State revenue. As such they are equipped with better buildings and physical plant, and have qualified teachers in good numbers. Their teachers are paid comparatively well and have security of service. But they have very little freedom for experimentation, being under rigid rules and regulations. Their services are transferable. These conditions probably make the teachers somewhat indifferent to the quality of their work.

A few private, unaided schools in the State are very well off financially. But majority of private, unaided schools are purely venture schools, started out of some local enthusiasm. The unaided schools included in the present study belonged to this category. They start with mostly locally raised funds which are often too small to construct school buildings with even minimum of facilities and to pay for a qualified team of teachers. Their main source of income is student fees. This compels them to adopt austerity measures by appointing fewers teachers who are paid less and irregularly. As a result teachers in these schools are often on the lookout for better jobs and show no enthusiasm in their work. These schools are paid some

non-recurring grant by the State, but are not recognised as eligible to become full-fledged aided schools. The Board of Secondary Education, in turn, does not recognise their pupils as regular students. Hence their pupils appear as private candidates at the Board's examinations. Meritorious pupils and children of high SES background generally do not prefer to attend these schools.

The conditions prevailing in the government-aided private schools, on the other hand, are very different. Under a formula of deficit grants from the State these schools receive grants sufficient to pay their teachers the government approved salary scales. But these grants are subject to the approval of the Board of Secondary Education, Assam, which gives such approval on the basis of a school's examination results. A school showing results below a predetermined minimum (generally 20%) for three consecutive years forfeits recognition of the Board, and in turn, is punished by the State by making a cut in the quantum of grant. Schools showing uniformly good results receive special State grants for specific purposes. As a result teachers of these schools have to constantly strive to keep up the examination results above the minimum prescribed. Meritorious children and those of better SES backgrounds prefer to attend either a government school or a government-aided school.

In Table 3.37 are shown the mean n Achievement level of pupils attending schools under the three types of management.

Table 3.37

Mean n Achievement by School Management

School management	N	n Achievement scores	
		Mean	SD
1. Government	25	4.20	5.67
2. Private unaided	88	4.05	6.30
3. Private, aided	270	5.08	6.22

The mean n Achievement score of pupils from the government-aided, private schools was the greatest, the other two mean scores being more or less the same. However, none of the differences reached statistically significant levels. This indicated that government-run schools with superior resources did not necessarily help

their pupils to develop achievement motivation. They did not differ in this respect from the unaided schools which are working under more limited resources. The results also indicated that SES of schools had no definite relationship to the achievement motivation level of pupils studying in them. This finding is different from the results reported by Mehta (1969) who found pupils from low SES schools showing greater n Achievement than those from middle SES schools. In his study the low SES schools and the high SES schools showed greater n Achievement.

It is probable that SES of school as such is not a good indicator of achievement motivation in pupils. It is probably the teachers and the expectations they make of their pupils' accomplishments that count more in developing n Achievement. The description given of the aided schools included in the present study and the relatively greater n Achievement of their pupils probably tend to confirm this. In Mehta's (1969) study teacher expectation was not taken into account. Future research must try to separate the influences of these two types of school factors: an extrinsic school factor represented by school SES and an intrinsic school factor present in the form of teacher expectations of pupil achievement.

n Achievement by Achieving Status of School

The achieving status of schools included in the present study was determined on the basis of results of their students in the Secondary Education Board's examinations for the past two to five years. In the case of one school this information was not available and so it was left out from the analysis here. For each school the average pass percentage over the total period was calculated. Then the mean of these individual school averages was taken as the mean pass percentage of the schools as a group. This percentage came out to be 50.93. A school was designated as of average achieving status when its individual average pass percentage was between 40 and 60; it was designated as 'high' in achieving status when the individual average was above 60%; and it was designated as 'low' in achieving status when the individual average fell below 40%. Table 3.38 shows the average pass percentages of individual schools and their achieving status.

Table 3.38

Average Pass Percentage of Schools and Their Achieving Status

School	Average pass percentage	Achieving status
1. B. SS—2	29.79	Low
2. C. SS—1	57.80	Average
3. B. SS—3	36.94	Low
4. C. SS—2	36.12	Low
5. B. SS—4	94.10	High
6. G. SS—1	65.00	High
7. B. SS—5	34.34	Low
8. G. SS—2	33.00	Low
9. G. SS—3	44.44	Average
10. C. SS—3	51.82	Average
11. B. SS—6	54.73	Average
12. C. SS—4	78.30	High
13. C. SS—5	45.12	Average

In Table 3.39 are shown the mean n Achievement scores of pupils by achieving status of schools. The average and the high achieving status schools did not show any significant difference in the mean n Achievement levels. The low status schools showed a lower mean score than the other two achieving status schools, but the difference was practically insignificant.

Table 3.39

Mean n Achievement by Achieving Status of School

Achieving status	N	n Achievement scores		Mean differences	t	p
		Mean	SD			
1. High	101	5.25	6.33			
2. Average	134	5.29	5.50	1 & 3	1.388	.20
3. Low	111	4.06	6.43	2 & 3	1.637	.20

A breakup of the achieving status of schools by management brought out the following picture: government school has average achieving status; the majority of unaided schools have low achieving status; and the aided schools have achieving status of all shades, but more of them coming under the average status. It was possible to infer, therefore, that high SES schools (government schools) were not necessarily the high achieving status ones nor low SES schools (mostly unaided schools) the low achieving status ones (in fact one of the unaided schools showed high achieving status). It is probable that SES of schools is not a good indicator of achieving status of schools and achieving status of school as such does not cause differences in *n* Achievement.

Discussion

The results indicated that the tribal pupils as a group obtained significantly higher *n* Achievement scores than the non-tribal pupils. A similar finding was earlier reported by N. C. E. R. T. (1970) showing that the Munda and Oroan tribal boys have higher mean *n* Achievement than non-tribal Delhi high school boys. It also receives confirmantion from a study reported by Lyngdoh (1975) who found tribal college students in Meghalaya exhibiting higher *n* Achievement level than their non-tribal counterparts. In order to explain the difference in the mean *n* Achievement levels of tribal and non-tribal children, the lead given by McClelland (1961) to explain similar differences between children of Jews and protestants might be of some help. His explanation is based on results from several crosscultural studies (Winterbottom, 1958; Rosen and D'Andrade, 1959; Bradburn, 1963) that indicated a relationship between indepe- ndence training imparted in early childhood and the development of achievement motivation in children. His explanation centres round differences in the values fostered by the two groups and their impact on the growing minds of their children. This calls for examining the attitudes parents show toward child growth and development in different racial groups and the prevalence of value patterns among them.

Taking the position that all the tribal pupils included in the present study belong to the same race (because there is evidence, Barua, 1956) suggesting that all Assam tribals with the exception of the Khasi and Jaintia of the Khasi and Jaintia Hills belonged

to the early Mongoloid group that migrated to this part of the country), certain observations may be made about the child rearing practices prevalent among the tribals and their relevance to the development of greater achievement striving in them. The major constituent of the tribal sample included here were members of the Mishing or Plains Miri tribe who "exhibit a closer approximation to the Pasi Miyongs and the Padams of the Siyang Frontier division of the North-East Frontier Agency" (Pegu, 1956, p. 3). Commenting on the child rearing practices among these tribes, Roy (1966) notes that from the age of crawling the tribal boy and girl "start a new life of independence from parental guardianship and care". He further adds that the tribal toddler "is usually a quiet type of being rather grave, smiles and prattles little, and cries but rarely. It recognises the indifference of the world around to its baby complaints and sufferings and takes the lesson in roughing and self help.... The child grows up mostly uncared for in its own way more in the lap of nature than that of its mother." Underlying this pattern of child development are the following qualities: acquisition of independence, toughness, and a mastery over the environment by the growing child from a very early age. Elvin (1959) also noted the prevalence of values like self-reliance and discipline, and desire for hard work and co-operation among the tribal people of India in general. As a tribal child grows into adolescence he is attached to a bachelor's dormitory, which, among other things, develops among the young a spirit of responsibility, alertness, and habit of taking risk in the face of danger which are essential for the existence of the tribe. Thus all through the developmental period, the growing tribal child is made to face all sorts of vicissitudes that the very process of growth presents. Such training in independence and mastery of the environment received by the tribal child probably helps him to develop an optimistic attitude toward the challenges presented by life. As he grows, the attitude becomes internalised and adaptable to different life goals, and capable of different forms of expression.

Achievement motive can be conceptually defined as an 'urge to improve'. If this view is accepted, then a contributory factor for the relatively higher level of achievement motivation in tribal children might be found in the rise of 'tribal sub-nationalism' (Dubey, 1970), expressed in the form of demands for autonomous

administrative units for the tribal areas and for tribal unity, through the efforts of a new class of tribal 'elites' who are the products of a new education introduced in the tribal areas since independence. Barua (1956, pp, 130-.131) comments on this point thus :

> "The British Raj completely neglected the hills; nothing particular was done to change and improve the conditions of the hills people from the Neolithic stage to that of the twentieth century. . . . Naturally the withdrawal of the foreign power from the hills today enlivened in them the desire to remove backwardness on all scores and develop in the way 'best suited to their genius'. These hills people held in backwardness for about three quarters of a century are today experiencing a new movement of the mind and an urge for self-expression and self-determination."

The Sixth Schedule of the Indian Constitution was framed with due regard to these wishes and aspirations of the tribal people. It is a bold experiment and involves the principle of self-determination. In the conduct of this democratic experiment the tribals are assisted by the Central and State Governments through provision of better educational facilities and means of communication, and the opening of urban centres in the tribal areas. It is essentially a process of 'new identification' (Dubey, 1970) on the part of the tribals with the main life current of India with a view to transforming their socio-ecomomic structure without disturbing the essential harmony of their life. The most hopeful feature is that the tribal himself has awakened to the need of finding a solution and is responding (Report of the Scheduled Tribes Commission, 1960).

The picture emerging from the foregoing account of the tribal people is one of dismal neglect in the not very distant past of a group of people, who, as a result, had to live in isolation and severence, and under extreme deprivation of the benefits of modern comforts in life. With the advent of freedom the scars left by the long period of deprivation have given them the impetus to work to improve their lot. These strivings might find expression in different areas of activity; nevertheless taken together, they represent efforts from various sides to chisel out a more fuller life for all tribals.

The foregoing discussion suggests the following two probable factors to account for a greater achievement striving in tribal pupils: certain values inherent in tribal life and the rise of 'tribal sub-nationalism' aimed at an all round improvement of tribals. The two factors are not contradictory. They only suggest that atleast a section of tribals whose children attend schools, are progress-conscious, and that they convey ideas relating to the backwardness and isolation of tribals to their children right from early childhood in such a way that the growing tribal child develops an urge to improve his lot, and probably, that of his tribe.

The results reported here also revealed significant sex differences in the n Achievement levels. Any explanation to account for the definite trend in the result of the present study showing superior achievement striving of girls must touch upon the changing socio-cultural, political, economic, and educational conditions in the society. Historically speaking everywhere a trend had come to stay for a long period to assign rigidly compartmentalised masculine and feminine roles which, in course of time, received social and political sanction. No wonder it became so much embedded in the culture that a struggle for equality of the sexes had to be unleashed by women every where. This amounted to giving women the status of a disadvantaged group which resulted in their remaining in a state of deprivation of social status and position for a long time.

The discussion made of Indian women so far shows that they have been considered traditinally to be more conservative than men. They have been culturally a disadvantaged group. Trraditionallythey were denied equal opportunities of educational, cultural and occupational advancement. The advent of freedom and the framing of a new constitution marked the beginning of a new era in the struggle for emancipation of women. In the new set up not only is discrimination of any sort not to be tolerated by the State, but there is an upsurge of general cultural interest in identifying and fostering excellence wherever it is found, and in reducing the enormous waste of talent from all strata of society. To these changes may be added the work of various women's organisations who have all along acted as active change agents of women's emancipation in society. These efforts seem to have benefited the growing generation of female children as can be inferred from the significantly greater need for achievement shown by the girls of north-eastern region of the country in

the present study. Similar results were reported by Chaudhary (1972) with Punjabi girls and by Lyngdoh (1975) with Meghalaya girls. The girls seem to have developed some kind of an internalised value pattern encompassing within it the broad perspective of traditional and changing value patterns as they affect their lives. As a result it seems "some kind of an urge or aspiration for better life has been released and developed in girls" (Mehta, 1970). This probably explains why Indian girls show greater achievement motivation than boys.

As probable evidence of this tendency for greater achievement strivings in girls may be cited the finding in a research study (Ratha and Gokulnathan, 1968) conducted with a sample of post-graduate students of Assam. It was found that female students in the post-graduate departments of the Gauhati University showed significantly greater academic performance than their male counterparts. This probably showed that an intellectual goal was considered relevant to the female role by the respondents. This finding suggests that there has come about a change in the growing generation of females in terms of life goals chosen and pursued successfully. In a comparable study with Brazilian girls, Angelini (1955) obtained a similar finding. However a number of findings with American girls showed that high need achievers preferred as primary goals adult status goals or goals aimed at receiving social acceptability like marriage (Pierce, 1961; Stivers, 1957; Lesser, Krawitz, and Packard, 1963). It might be noted, however, that the two goals are not opposed to each other. Probably in the Indian context the intellectual goal is taken as an important one, first for its own sake and then with a view to striving toward more female adult status goals like marriage and a career and/or to try to raise the social status of all women in society through organised movements.

The comparative study of rural and urban pupils revealed that the former group of pupils possessed higher *n* Achievement level. This difference probably shows that the rural pupils as a group are not concerned with improving their living conditions. This line of interpretation derives support from the fact that the rural and urban groups have had different histories of development. In India rural population has remained more conservative than the urban population. In several psychological studies of intelligence and scholastic achievement the rural subjects have been found repeatedly to lag

behind their urban counterparts (Mehta,1970). This may be attributed to the fact that the rural people have come to stay in a state of backwardness in comparison to their opposite numbers. The special development programmes initiated by Central and State governments bear testimomy to the general state of backwardness of these areas. The finding showing greater achievement striving among the rural school pupils probably indicates that these children of the backward sections of people are showing greater urge to improve. Sex and tribal factors appeared to show independent effect on n Achievement. But even when these factors were controlled, rural boys showed significantly greater urge to achievement than their urban counterparts. That means, among the non-tribal boys, the rural group obtained significantly higher mean n Achievement score than the urban group. It appears thus that the rural non-tribal high school boys, like the tribals and girls, who have remained comparatively backward and isolated from the main current of Indian life, are probably beginning to show greater urge to improve their living conditions.

The results showing the relationship of socio-economic status variables to n Achievement exhibited somewhat erratic trends. In case of urban school boys and girls a composite SES index and n Achievement score were compared. It was seen that children belonging to 'high' SES families possessed insignificantly greater n Achievement than those belonging to 'middle' and 'low' class families. The three SES variables of education, income and occupation, when compared individually with n Achievement of boys and girls, showed, by and large, the same trends in results as did the composite SES index. Here again the differences were not significant.

In order to seperate the probable influence of the seemingly dependent variables of race, sex, and area of residence as they affected the SES-n Achievement relationship in children, individual analyses were made by separating the influence of these three dependent variables. Here the results revealed the following facts: tribals, girls, and rural children who showed significantly greater n Achievement than their respective opposite numbers, came mostly from middle and low SES class families. By and large, their SES background did not show any definite relationship to their n Achievement level. But among their opposite numbers, namely, non-tribals, boys, and urban children, those from a higer SES background almost invariably pos-

sessed significantly greater n Achievement than those belonging to middle and lower class background.

It was clear from the results that SES variables did not show any regular and definite relationship to n Achievement in children. The role of these variables thus appeared to be very limited both in extent and in its application to different groups. Other Indian researchers also obtained similar results (Mehta, 1969 ; Chaudhary, 1972). It is known that socio-economic status background is an extrinsic factor of child development. Hence it is only logical to think that a particular SES environment does not automatically produce certain adaptive characteristics in people. McClelland (1961, p.387) summarises all available evidence on this point thus :

> ". . . external events affect motivational levels primarily as they affect the family, or more specifically values and child rearing practices of the parents. The family as the nucleus of the social structure is a little like the nucleus of the atom ; it is harder to influence by external events than one might expect, and it is often influenced in quite unexpected ways."

The results showing the relationship between the three school variables and n Achievement of their pupils suggested the following inferences : The effect of sex-based school organisation on n Achievement in adolescents is probably not uniform in the two sex groups. Type of school management and achieving status of school have probably no direct relationship to achievement motivation in pupils. However, in some school systems there was scope to assume that their managements and teachers were driven to convey to their pupils the high expectations they make regarding pupil achievement. These expectations probably cause the development of some kind of internalised controls in pupils evoking a desire to achieve more.

An important finding emerging out of the survey results reported here is the significantly greater n Achievement level prevailing in certain sections of secondary school pupils. These sections are tribals, girls, and rural residents. Why do these sections show greater urge to achievement ? Is there something like a common factor that can possibly account for this trend ? The discussion in the preceding sections suggests that there is probably some common denominator guiding the destinies of children from these sections. Traditionally conservatism and orthodoxy found their way into the lives of tribals,

women, and rural folk in India. In course of time these traits have penetrated deep into the souls of these sections of people leaving them isolated from the socio-culturally progressive sections. The result is that they have remained more outside of the main life current of India than within it. They have come to be known as the 'disadvantaged groups' in new India. The greater *n* Achievement in pupils from these sections may have its roots in their pyscho-historeology.

A broader conceptual definition of achievement motivation may be put as "dissatisfaction with the present state of affairs and an urge to improve the life conditions for oneself" (Mehta, 1970). By taking this as a working definition, the greater *n* Achievement shown by childern of the disadvantageous groups may be looked upon as an expression of their expanding expectations in life. It may not be true to say that all members of these disadvantageous groups are showing the same greater urge to achieve. But certainly it applies to those children from families where the parents have adopted 'school sending tendency' for their children. The comparatively greater proportion of illiterates in these disadvantageous groups leaves only a small proportion of parents who need to be studied in furture research to find a definite answer to account for the greater urge in their children. But an adhoc explanation can be given by making a reference to the socio-cultural history of the disadvantaged groups.

It is a fact of Indian history that certain sections of people have, under favourable conditions, made comparatively greater progress than others. It is also a fact that tribals, females, and rural population have remained comparatively backward. Under such conditions of unequal progress it is natural for the backward sections to feel dissatisfied with their backwardness. Getting out of backwardness is a constant challenge from their environment. Continued association with such environment may make the degree of environmental challenge an intrinsic factor of their life course. The changing socio-economic and political conditions in free India mark a new phase in the lives of the backward sections. It is only natural that the changed and the changing conditions are producing new values and attitudes in the younger generation. Along with the changing attitudes and values their expectations also have expanded leading to a greater urge to improve. McClelland et al (1953, p.63) have also

observed that the 'achievement motive develops out of growing expectations'. The following diagram shows the probable steps of the model suggested here:

Disadvantaged Sections → Dissatisfaction with such life

Favourable conditions produce new character types capable of infusing new values and attitudes in the younger members

Growing expectations

n Achievement or urge to improve
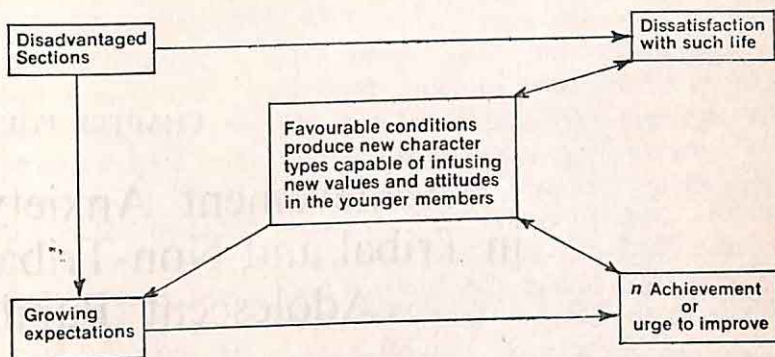
The findings reported here have important implications for social change in India. Achievement motivation has been found to be positively related to mobility (Crockett, Jr., 1962), role aspirations (Mahone, 1960; Burnstein, 1963), and entrepreneurial activity (McClelland, 1955, 1961; McClelland and Winter, 1969). A significantly greater level of need for achievement in tribals, girls and rural adolescents probably indicates that the younger generation of these socio-culturally backward sections are in for greater vertical mobility as well as greater entrepreneurial activity. These indications seem to have significance for future socio-economic growth of the country.
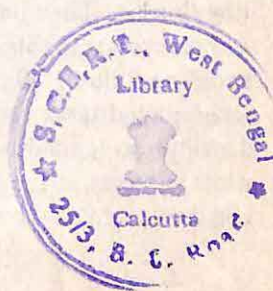
Achievement Anxiety in Tribal and Non-Tribal Adolescent Pupils

The study of achievement anxiety or fear of failure as a stable personality trait has its historical roots in such clinical problems as anxiety, guilt, shame, and feelings of inferiority. But as a subject matter of importance in empirical research it first appeared in studies on level of aspiration (Dembo, 1931; Frank, 1935; Sears, 1940). The basic use made of anxiety motivation or 'failure' motivation in these studies was as an explanatory principle to account for individual differences in the pattern of aspirational levels. A new impetus was given to the study of 'failure' motivation by McClelland .and his associates (1953) in connection with their investigation on achievement motivation.

McClelland and Liberman (1949) using subjects classified into thirds on n Achievement scores, found that subjects in the middle third of the distribution were slower to recognise tachistoscopically presented negative achievement words than subjects in the high and low thirds. They interpreted this to mean that the middle-third n Achievement subjects were security minded and concerned with avoiding failure. Similarly Atkinson (1953) in a study on recall of incompleted tasks found that the middle-third of the n Achievement distribution tended to forget tasks they were unable to complete, while subjects in the upper-third remembered the incompleted tasks. His interpretation considered moderate n Achievers as defensive

who regarded their inability to complete a task as a failure. The results of these two studies have helped to separate the two dimensions of achievement-related motivation (McClelland, 1951)—one directed towards the avoidance of failure and the other directed towards the attainment of success.

Independent study of the failure motive did not take place for some time for want of tools to measure it. Even when the main types of instruments, namely, the questionnaire type and the TAT type were devised there came about a psychometric paradox : the measures (Test Anxiety Questionnaire by Mandler and Sarason, 1952; the Debilitating Anxiety Scale by Alpert and Haber, 1960; the TAT Hostile Press by Birney et al., 1969; and the TAT Fear of Failure by Heckhausen, 1963) did not show substantial inter-correlations although all the measures exhibited a considerable overlap in construct validity (Heckhausen, 1969). This shows how intricate the study of the fear of failure motive is.

In a phenomenological analysis of the fear of failure motive, Birney et al. (1969) have tried to show that the focus of this motive may be on different value systems. Following this lead they have delineated in a suggestive analysis three types of fear of failure : (i) Fear of self-devaluation, (ii) fear of social devaluation, and (iii) fear of non-ego consequences. Of these the first two are related to different standards of excellence and are embedded within a personality. The self comes into play. Fear of self-devaluation and fear of social devaluation constitute two different reference systems of self-esteem, an autonomous one and a socially dependent one. This line of analysis differs from the Atkinson's model of achievement motivation (Atkinson, 1964; Atkinson and Feather, 1966). In Atkinson's formulation the motive to avoid failure is tied in a monolithic fashion to a self-governed reference system without much concern about the socially dependent reference system.

The present study did not aim at testing the origin and development of the fear of failure motive. It started with the simple assumption that, like the achievement motive, the fear of failure motive is an acquired personality disposition and hence subject to the influences from an achievement-related person-environment frame of reference. It was the relevance of such a frame of reference that was studied here by trying to find possible connection between the fear of failure motive and several socio-cultural, econo-

mic, and educational factors in the case of secondary school pupils. The analysis pattern followed was identical to the one followed in case of *n* Achievement in the previous chapter. The socio-cultural and economic factors included were race, sex, area of residence, and socio-economic status variableś. The educational factors included were the following : sex-based school organisation, management pattern of school, and the achieving status of school. The instrument used in the present study was a questionnaire developed by Mehta (1969).

A. SOCIO-CULTURAL AND ECONOMIC FACTORS AND ANXIETY

Anxiety and Race

Table 4.01 shows the mean anxiety scores of tribal and non-tribal pupils. The mean scores were more or less same in the two groups and the difference was not significant statistically. Similar findings were also reported by Lyngdoh (1975), Pdah (1977), Medhi (1977), and Gupta (1978) with college and high school students in Meghalaya.

Table 4.01

Mean Anxiety Scores of Pupils by Race

Racial group	N	Anxiety score		t	p
		Mean	SD		
Tribal	68	6.05	1.64		
Non-tribal	315	6.27	1.69	1.00	n.s.

Anxiety by Sex

The mean anxiety scores of boys and girls are shown in Table 4.02. The mean difference was small and was not statistically significant. This result differed from the one reported by Vassiliou et al. (1967) who found females obtaining significantly higher anxiety scores than males at all age levels and at all educational levels. It also differed from the result obtained by Devi (1969) and

Lyngdoh (1975) who found college girls showing significantly greater anxiety than their male counterparts.

Table 4.02

Mean Anxiety Scores by Sex

		Anxiety scores			
Sex group	*N*	*Mean*	*SD*	*t*	*p*
Females	89	6.07	3.009	0.666	n.s.
Males	294	6.29	2.73		

Anxiety by Area of Residence

In Table 4.03 are shown the mean anxiety scores of pupils from urban and rural areas. The mean values were practically the same showing no difference in anxiety level in the two groups. This finding is different from results reported by Pdah (1977), Medhi (1977), and Gupta (1978) who found rural high school pupils showing significantly higher mean anxiety than their urban counterparts.

Table 4.03

Mean Anxiety Scores by Area of Residence

		Anxiety scores			
Area of residence	*N*	*Mean*	*SD*	*t*	*p*
Urban	302	6.24	2.89	0.029	n.s.
Rural	81	6.25	2.20		

Socio-Economic Status Variables and Anxiety

As in the case of previous chapter on *n* Achievement, full SES data were available in the case of urban respondents. In their case, therefore, a three group SES classification was made and their mean anxiety scores compared. Table 4.04 shows these results.

Table 4.04

Mean Anxiety Scores by SES Class of Urban Subject

SES class	N	Anxiety scores	
		Mean	SD
High	40	5.77	2.61
Middle	127	6.32	2.76
Low	135	6.24	2.98

The two lower SES classes showed comparatively greater anxiety levels than the highest SES class. But the mean differences were not significant statistically (Table 4.05). In comparable studies conducted in Shillong the high SES pupils were found to be significantly more anxious than their low SES counterparts (Pdah, 1977; Medhi, 1977; Gupta, 1978).

Table 4.05

Analysis of Variance in Anxiety Scores by SES of Urban Subjects

Source	df	SS	MSS	F	p
Between groups	2	7.76	3.38		
				0.44	n.s.
Within groups	299	2635.86	8.81		
Total sum	301	2643.63			

Anxiety Scores by Fathers' Income

Data relating to income and educational backgrounds of fathers/guardians were available in the case of all respondents. These were treated separately to study their relationship with anxiety in children. The groupings of pupils made on these variables were similar to the ones used in the case of n Achievement in the previous chapter. Table 4.06 shows the results in case of the income variable.

Table 4.06

Mean Anxiety Scores of Pupils by Income Background of Father

		Anxiety scores	
Income group	*N*	Mean	SD
1. Rs. 750/- and above	17	6.23	1.88
2. Between Rs. 300/- and Rs. 749/-	105	6.01	2.79
3. Between Rs. 101/- and Rs. 299/-	166	6.21	2.98
4. Rs. 100/- and below	95	6.57	2.62

The four income groups showed more or less the same level of anxiety and the mean differences were not significant statistically.

Table 4.07

Analysis of Variance in Anxiety Scores by Fathers' Income Groups

Source	*df*	*SS*	*MSS*	*F*	*p*
Between groups	3	16.12	5.36		
				0.682	n.s.
Within groups	379	2989.82	7.88		
Total sum	382	3005.94			

Anxiety Scores by Fathers' Educational Background

The mean anxiety scores of respondents with different educational status backgrounds appear in Table 4.08. The high educational background group showed comparatively lower mean anxiety level. A similar trend in results on anxiety was reported by Vassiliou et al. (1967) using a group of Athenian subjects. However, the mean differences in anxiety levels between different educational groups did not reach significant levels (Table 4.09).

Table 4.08

Mean Anxiety Scores by Fathers' Educational Level

Educational level	N	Anxiety scores	
		Mean	SD
1. Profesional, M.A./B.A., B. Sc,	38	5.92	2.59
2. High school, Post-high school diploma	122	6.59	2.94
3. Middle school and below	223	6.25	2.77

Table 4.09

Analysis of Variance in Anxiety Scores by Fathers' Educational Status

Source	df	SS	MSS	F	p
Between sum	2	15.99	7.99		
Within sum	380	2733.22	9.76	0.819	n.s.
Total sum	382	2749.21			

Anxiety Scores by Fathers' Occupational Status

Information relating to the occupational status of parent/ guardian of the urban subjects alone was available. On the basis of this information subjects were classified into five groups as was done in the case of n Achievement. These results appear in Table 4.10. In absolute terms the children of professional fathers exhibited the highest mean anxiety and those of semi-professional fathers the lowest mean anxiety. The analysis of variance (Table 4.11) yielded a moderately significant F value. To check the significance of individual mean differences t values were calculated. Only the professional and the semi-professional groups revealed slightly significant mean differences (Table 4.12).

Table 4.10

Mean Anxiety Scores by Fathers' Occupational Groups for Urban Pupils

Occupational group	N	Anxiety scores Mean	SD
1. Professional	12	7.08	2.81
2. Semi-professional	27	5.51	2.43
3. Clerical, shop and farm owners	113	6.22	2.87
4. Skilled workers	47	6.29	2.93
5. Semi- and unskilled workers and the unemployed	103	6.22	2.88

Table 4.11

Analysis of Variance in Anxiety Scores by Fathers' Occupational Groups

Source	df	SS	MSS	F	p
Between groups	4	84.36	21.09	2.562	.05
Within groups	297	2446.91	8.23		
Total sum	301	2531.27			

Table 4.12

Mean Anxiety Scores Differences by Fathers' Occupational Groups

Occupational group		t	p
Between	1 and 2	1.781	.10
	1 and 3	0.988	n.s.
	1 and 4	0.841	n.s.
	2 and 4	1.169	n.s.
	2 and 3	1.187	n.s.
	2 and 5	0.977	n.s.

B.   ANXIETY AND SCHOOL VARIABLES

In Table 4.13 are shown the mean anxiety scores and SD values for pupils from different schools. The results are provided as they apply to the whole class in different schools.

Table 4.13

Mean Anxiety Scores by Schools

| School | N | Anxiety scores | |
		Mean	SD
1. B. SS—1	37	6.62	3.11
2. B. SS—2	19	5.94	2.24
3. C. SS—1	17	6.64	2.42
4. B. SS—3	21	5.91	2.27
5. C. SS—2	21	6.42	3.04
6. B. SS—4	29	7.37	2.94
7. G. SS—3	25	5.56	2.41
8. B. SS—5	38	6.00	3.47
9. G. SS—2	12	7.58	2.64
10. G. SS—1	16	5.25	3.10
11. C. SS—3	24	6.08	2.81
12. B. SS—6	37	5.64	2.10
13. C. SS—4	56	6.48	2.58
14. C. SS—5	31	6.06	2.84

In case of analyses under this section it was assumed as in the case of *n* Achievament, that the three school variables chosen would provide different environmental conditions releasing different amounts of anxiety. The idea was to study if these school variables show any definite pattern of relationship to anxiety levels in their pupils.

Anxiety and Sex based School Organisation

From Table 4.14 it can be seen that pupils from the three types of schools did not show considerable differences in their anxiety. The mean score was highest in case of pupils from co-educational schools and was lowest in case of girls' schools. This again suggested that girls were probably less anxious than boys, a finding contrary to what

Vassiliou et al. (1967) had obtained. However none of the mean differences reached the significant level.

Table 4.14

Mean Anxiety Scores by Boys', Girls' and Co-educational Schools

		Anxiety scores		Mean		
School organisation	N	Mean	SD	difference	t	p
1. Boys' school	181	6.25	2.84	1 and 2	0.751	n.s.
2. Girls' school	53	5.92	2.82	2 and 3	0.951	n.s.
3. Co-educational school	149	6.33	2.69	1 and 3	0.263	n.s.

Anxiety and School Management Pattern

Of the three types of management pattern considered here the government school pupils showed the lowest mean anxiety score and the private, unaided school pupils showed the highest mean scores. In the absence of any significant differences (Table 4.15) nothing definite could be said about the results. But there was a vague trend indicated by the result here that the government school pupils probably thought less about avoiding failure in achievement situations. The reason for this might lie in the comparatively affluent nature of these schools and their relative freedom from any serious concern about the achievement of their pupils due to their exemption from any stricter checks as are invariably applied in the case of aided schools.

Table 4.15

Mean Anxiety Scores by School Management

		Anxiety scores		Mean		
School management	N	Mean	SD	differences	t	p
1. Government	25	5.56	2.41	1 and 2	1.304	n.s.
2. Government aided	270	6.28	2.69	2 and 3	0.439	n.s.
3. Private, unaided	88	6.43	3.09	1 and 3	1.304	n.s.

Anxiety and Achieving Status of Schools

The results showing the anxiety levels of pupils from schools with different achieving status appear in Table 4.16.

Table 4.16

Mean Anxiety Scores by Achieving Status of School

		Anxiety scores		Mean		
Achieving status	*N*	*Mean*	*SD*	*differences*	*t*	*p*
1. Good	101	6.54	2.83	1 and 2	1.768	.10
2. Average	134	5.94	2.50	2 and 3	0.825	n.s.
3. Poor	111	6.22	2.90	1 and 3	1.092	n.s.

Pupils from good achieving status schools showed the greatest anxiety score. It was significantly greater ($p \angle .10$) than the anxiety score of pupils from average achieving status schools. The low achieving status school pupils did not differ significantly in their anxiety level from the other two types of schools. It is likely that the management of high achieving status schools might be creating some kind of fear of losing grants, etc. For the school to lose its achieving status would mean losing a prestigious position of social esteem as well. The high anxiety score of such pupils might mean such a press from their management. This view fits very well into a finding reported elsewhere in this report (Chapter V) that a moderately high level of anxiety is not necessarily detrimental to achievement; rather, it aids achievement when acting in conjunction with a high level of *n* Achievement. It also indirectly supports the contention of Heckhausen (1969, p. 129) that people with medium high Fear of Failure score highest on responsibility for failure. This might explain how the student community of high achieving status schools remain comparatively more anxious and at the same time maintain their high achieving status.

Discussion

The results indicated that there were no significant differences in the achievement-related anxiety levels by sex, racial groups, and for pupils from rural and urban areas. The different socio-economic status variables, except the occupational status of fathers, also did not affect the anxiety levels of the pupils. Even among different occupational status groups, only the professional and the semi-professional groups showed significant differences in anxiety levels. This indicated that the comparatively low SES groups of pupils did not show very high anxiety levels. Among the school variables only

achieving status appeared to show some relationship to anxiety. Many of the high achieving status schools in the sample are aided schools, and it was the high achieving school pupils who exhibited moderately high anxiety about failure. In Chapter III it was noted that pupils of high achieving status schools show relatively high *n* Achievement score. It would appear, therefore, that a moderately high level of anxiety aids school achievement in pupils with relatively high *n* Achievement.

A second result might emerge if the results obtained here are combined with the results of the previous chapter. In the previous chapter it was noted that members of the socio-culturally and educationally backward sections like tribals, females, and rural children exhibited greater urge to improve (as inferred from their significantly greater *n* Achievement scores). The results obtained here probably indicated that the culturally disadvantaged groups do not show as high a level of anxiety as to cause fear of failure of their greater urge to improve. This finding may have important implications for future socio-economic planning in the country because it affects an important segment of our population on whose improvement depends the success or failure of the efforts in building up an egalitarian social set up.

Achievement-Related Motivation and Academic Achievement

In an attempt to study the relationship between an individual's motives and his behaviour in a systematic way several researchers have reported results showing the relationship of achievement-related motives to action variables like performance, risk-taking behaviour, and persistence in achivement-oriented situations. Many of the early workers in this area (Lowell, 1952; Johnston, 1955; Clark and McClelland, 1956) took the position of motive as a stable persona-lity disposition and set out to establish this fact in relation to the achievement motive-performance relationship. Taking note of the definition of n Achievement (McClelland et al., 1953) these researchers concentrated and succeeded in showing that the 'high need achiever' has considerably higher productivity on laboratory type problem solving task than the 'low need achiever'.

Side by side, there was concern about locating intervening variables that might be affecting the relationship between achieve-ment motive strength and actual performance. Thus Atkinson (1953) in his study on recall of interrupted tasks found that recall in such cases was related to the strength of n Achievement in individuals only when the tasks were presented as tests on which it was impor-tant to do well. On the basis of this finding he makes a distinction between 'achievement motive' and 'achievement motivation', the former being thought of as a latent disposition and the latter as the aroused state in a particulaer situation and manifested in overt performance. It is this phenomenon of actual motive arousal that is

of prime importance in studies on motivation and behaviour. Further evidence on the importance of considering the situational variables in studies on *n* Achievement-performance relationship comes from yet other resrarchers. French (1955) found performance on a letter-digit substitution test related to resultant motivation under which she included the typical level of *n* Achievement and situational cues like instruction. French and Thomas (1958) found achievement motivation related to successful performance in a problem solving situation where the length of time worked was determined by the subject. Wendt (1955), and Atkinson and Raphelson (1956) reported similarly that performance and *n* Achievement were related when the cues of the situation aroused the expectancy that a feeling of personal accomplishment would accompany a good performance. A general finding emerging from these studies is that the relationship between achievement motivation and performance is maximised when a 'sense of achievement' is possible of anticipation from the performance. This is evidence that standards of excellence are the mark of the achievement motive in so far as the individual perceives such standards as personally binding or compelling, a definitive characteristic used by McClelland et al. (1953) to describe the 'high need achiever'. Underlying such anticipation of a sense of achievement through performance of an act is an expectancy that the act will be insrumental in attaining the goal.

The importance of a task as perceived by the performer thus appears to influence achievement motivation-performance relationship. In choosing to study the motive-performance relationship in simple problem solving situations in the laboratory, researchers limit the application of this relationship to artificial, and probably, personally non-involving situations. In order to overcome this difficulty, in some studies, more life-like situations presented by various academic examinations are used. Here the past researches show achievement motivation-academic performance relationship yielding correlation coefficients anywhere between low negative to significantly positive magnitudes. Thus McClelland et al. (1953) have found an *r* value of .51 for boys; Recciuti and Sadacca (1955) have found for boys *r* values ranging between .19 to .36; Rosen (1956) and Pierce and Bowman (1960) have reported significant positive relationship between *n* Achievement and course grades for high school boys; Tamhankar (1967), using high school boys,

obtained a significant r value of .068, and Littig and Yeracaris (1963) obtained significant r value for men, but not for women. Atkinson (1950), however, obtained for a group of college boys an r value of —.14.

The evidences gathered by researchers to show that motive arousal is an interactive product of motive strength and various conditions, circumstances, and/or constraints of a presently given situation have been of much help in the formulation of a theory of achievement motivation. Atkinson's (1957) first attempt at such a theoretical formulation resulted in his motive-expectancy-incentive conception of human motivation in relation to performance. He used the term 'expectancy' to refer to a particular kind of cognitive association aroused in the person by situational cues. The strength of expectancy can be expressed as an index of the probability that performance of an act will lead to certain consequences. The term 'incentive' is used to denote the magnitude of personal satisfaction that the performer of an act will derive should the expected consequence occur (Atkinson, 1957). In his model of achievement motivation, Atkinson (1964) uses the word 'tendency' to denote motive arousal. In his formulation the tendency to achieve success (T_s) which is one component of resultant achievement-related motivation, is a multiplicative function of the motive to achieve success (M_s, i.e., n Achievement), the strength of expectaney or probability of success (P_s), and the incentive value of success (I_s).

Originally McClelland and associates (1953) had chosen to study a single motive need for achievement (n Achievement) in the analysis of achievement-oriented performance. But quite early in their achievement motive research it became evident that the measurement of a motive cannot restrict itself to a one-dimensional variable. One important factor of achievement-related motivation neglected in earlier research was test-taking anxiety, a variable considered later, and conceived of by Atkinson and his associates (Atkinson, 1958; Atkinson and Feather, 1966) as indexing the 'motive to avoid failure'. Atkinson (1964, p. 244) sums up the position in this regard thus :

"It is assumed that in addition to a general disposition to seek success, called the achievement motive, there is also a general disposition to avoid failure, called motive to avoid failure. Where the motive to achieve might be characterised as

a capacity for reacting with pride in accomplishment, the motive to avoid failure can be conceived as a capacity for reacting with shame and embarrassment when the outcome of performance is failure. When this disposition is aroused within a person, as it is aroused whenever it is clear to a person that his performance will be evaluated and failure is a distinct possibility, the result is anxiety and a tendency to withdraw from the situation."

In his theoretical formulation of achievememt motivation, Atkinson (1964) includes the tendency to avoid failure as the second component of achievement-related motivation which he defines by the formula : Tendency to avoid failure (T_{-f}) = Motive to avoid failure (M_{AF}) × Probability of failure (P_f) × incentive value of failure (I_f).

The general picture given of a person with high test-anxiety or motive to avoid failure faced with an achievement situation is that he will orient himself in such a way as to avoid failure. This tendency to avoid failure would, according to Atkinson (1964), interfere with the tendency to achieve resulting in lowering of the level in performance. Here the motive to avoid failure is looked upon as having a debilitating effect on achievement-oriented performance. There is empirical evidence to show that an anxious person performs poorly under achievement strees or threat involving conditions (Atkinson, 1954; Mandler and Sarason, 1952; Schroeder and Hunt, 1957). There are also some data showing that persons with high anxiety score perform poorly in academic situations. Atkinson and Litwin (1960), Smith (1964), Mehta (1969), and Spielberger and Katzenmeyer (1959) found negative relationship between anxiety and grades for boys.

Atkinson's formulations about the motive to avoid failure have not received universal support. Other theorists (Heckhausen 1969; Birney et al., 1969) feel that the focus of a fear of failure person may be on different value systems instead of on a single value system as suggested by Atkinson's model (1964). This means that individuals are likely to react in different ways in situations where the fear of failure motive is at work. It is true that the individual motivated by anxiety about fear of failure is likely to select a strategy that gets him away from a failure experience. And there can be several methods of getting away from a failure experience, one of which may be success at the task. High test anxiety is not always detrimental to

quality performance is borne out by several findings reported by rese-
archers. Sarason (1961) using the TAQ found that highly anxious
subjects actually did show better performance when the subjects were
presented the task not as a threat. Thus under conditions wherein
the subjects were told that failure on the task was normal and expec-
ted, high anxiety served the function of moving a person towards
success. Atkinson and O'Connor (1966) found with a group of
college male students that when n Affiliation is strong, subjects
having the highest TAQ measured test anxiety (M_{AF}) scores
showed higest level of performance. Teevan and Pearson (1965),
Teevan (1962), Hancock (1964), Teevan and Smith (1964), and Tee-
van and Custer (1965) made relationship studies between 'fear of
failure' (FF) motive as measured by scoring the TAT protocols for
Hostile Press (HP) scores (Birney, Burdick, and Teevan, 1969) and
academic grade points for students at various levels of the educa-
tional ladder. In all the cases the HP measure showed significant
positive relationship to grade-point average.

Atkinson's (1964) theory of achievement motivation assumes
that all individuals possess both a motive to achieve success and a
motive to avoid failure in differing proportions. When faced with
performance of an act both these motives are aroused in the person
resulting in an approach-avoidance or excitation-inhibition conflict
whose resolution is reflected in the resultant tendency to approach or
avoid the activity. That is, resultant achievement motivation is
determined by adding a person's tendency to achieve success (Ts) to
his tendency to avoid failure (T$_{-f}$).

The theory of achievement motivation (Atkinson, 1964; Atkinson
and Feather, 1966) provides a basis for relating individual differences
in achievement-related motive strength to performance. In a broader
sense the theory attempts to account for the determinants of the
direction, magnitude, and persistance of behaviour in relation to
achievement-oriented performance. On the basis of the definitions
of the two achievement-related motives it is expected that when a
person's Ms is stronger than M_{AF} he is likely to perform better in
an achievement-oriented activity. When the case is reversed the
person is expected to perform poorly in an achievement-related acti-
vity. But when the two motives have equal strength any prediction
of the quality of performance will have to be made on the basis of
knowledge of the strength of other extrinsic sources of positive

motivation to perform the act. These extrinsic sources of positive motivation are assumed to be present in all situations of achievement-related performance contributing to the total strength of tendency to perform the act. The total strength of tendency to perform an act thus equals achievement-related motivation $(T_S + T_{-f})$ plus extrinsic motivation (Atkinson, 1964). "By extrinsic motivation is meant the strength of the tendency to act that is attributable to the influence of other motives and incentives that are not intrinsically related to the evaluation of performance as are the two achievement-related motives" (Atkinson, 1964, p. 247).

The Atkinson (1964) formulation assumes that the achievement-related motives have opposite functions as regards their effect on performance : Achievement motive showing a facilitating effect and test-related anxiety showing a dampening or inhibiting effect. There fore the resultant achievement motivation is, by definition, negatively related to test-taking anxiety. Several empirical studies in the areas of achievement-related motives-performance relationship tend to suggest that a high n Achievement score is associated with superior performance and high test anxiety score is associated with inferior performance (Atkinson and Litwin, 1960). The effect of resultant achievement motivation on performance has received ample attention of researchers (Smith, 1964; Karabenick and Youssef, 1968; Ryan and Lakie, 1965; Atkinson and Litwin, 1960; Mehta, 1969) who made simultaneous classification of persons in terms of their strengths on M_S (TAT based n Achievement score) and M_{AF} (mostly questionnaire type test-anxiety score) and compared extreme groups on the two motive dimensions. Here again subjects high on M_S and low on M_{AF} (using median as the cut-off point) showed greater performance than subjects classified as low on M_S and high on M_{AF}. All these findings lend support to the formulations of Atkinson (1964).

In the present study the basic findings depicting the achievement related motives and their relationship with performance which paved the way for the formulation of Atkinson's theory of achievement motivation, were checked in the context of a real-life achievement-oriented activity, namely, an important secondary school examination. Indirectly the findings reported here provided a check on the applicability of Atkinson's (1964) theory in an academic setting that involved no artificiality of any kind. It also checked the applicabi-

lity of the theory across a different socio-cultural background from what was used as the background by Atkinson and his numerous associates. In brief, the present study examined the relationship between n Achievement and academic performance, on the one hand, and between test-taking anxiety and academic performance on the other. It also checked the effect of resultant achievement motivation (both n Achievement and test anxiety simultaneously considered) on academic achievement in the case of boys and girls separately.

n Achievement and Academic Performance

The activity, namely an academic examination, a record of performance on which it was used, was assumed to provide a competitive situation demanding knowledge, ability, and skill. It was hoped that the facilitating influence of n Achievement would become visible in performance in the activity.

Table 5.1 shows the product-moment correlation coefficients between n Achievement scores and the aggregate marks obtained in an important secondary school examination obtained for the boys and girls in the present study sample.

Table 5.1

Product-Moment Correlation Between n Achievement and Total Marks Obtained in the Secondary School Examination

Sex group	r	N	P
Girls	0.142	89	n. s.
Boys	−.0119	294	n. s.

In the case of girls the r value was low, positive and, in the case of boys it was low, negative. In both cases the r values were statistically not significant. The relationship between n Achievement and academic performance in the present study was insignificant whereas the same was significant and positive in several other studies reviewed earlier in this chapter. Following a lead given by French (1958) that the relationship between motivation and problem solving success was not uniform over the entire motivation range, it was decided to compare the high and low groups on n Achievement in terms of academic performance. The median n Achievement score was used as the line to divide the sample into high and low groups on that variable. These results are shown in Table 5.2.

Table 5.2

Mean Academic Performance of High and Low *n* Achievement Groups

| | *n Achievement scores* | | | | | |
| | High | | | Low | | |
Sex group	N	Mean% school marks	SD	N	Mean% school marks	SD
Girls	45	34.19	7.14	44	33.32	8.08
Boys	159	35.96	9.94	135	34.08	9.41

The results reported here showed that the group of boys and girls classed as 'high' on *n* Achievement have, in absolute terms, obtained higher mean percentage of marks in the school examination than the groups classed as 'low' on *n* Achievement. But the differences in the mean percentage of marks were statistically not significant.

The absence of any definite trends in the results on *n* Achievement-academic performance relationship might be due to the complexity of the task presented by an examination situation where factors other than merely achievement motivation are at work. There is some evidence to suggest that intelligence plays a very important part in acadamic achievement than *n* Achievement does (Tamhankar, 1967; French, 1958). A superior intelligence level might act as a built in advantage in relation to performance in achievement-oriented situations. Intelligence level might also affect the perceived level of difficulty of the task, and there is evidence that the perceived difficulty of the task influences the motivation-performance relationship (Feather, 1961; Smith, 1964). Apart from intellectual ability which is individual potentiality, factors in the school situation might also affect *n* Achievement-academic performance relationship. There is a hint from McClelland (1953, p. 240) suggesting that the different amount of "pressure" or emphasis that is put on academic achievement by different educational institutions might alter the quality of such achievement. Such "pressure" can cause anxiety in pupils which may turn into an important drive affecting their examination performance. In still more definite terms McClelland (1961) concedes to the possiblity of more than a single aceievement indicator affecting actual achievement. After all, achievement is a social concept and its meaning has

to be mediated by social norms and expectations. As the respondents in the present study sample were drawn from different educational institutions which might put different amount of emphasis on academic achievement and which might have different histories of achievement in the past it might be that different people will get good academic grades in the different educational institutions. This area needs further research. Some possible effect due to school pressure as it affects the *n* Achievement-academic performance relationship is examined in the present chapter discussion.

Test-taking Anxiety and Academic Performance

A real life academic examination by vritue of the importance attached to it in the academic career of students, must be a matter of great concern to students who are going to take it. Ordinarily, therefore, a certain amount of anxiety will be generated as students set about to prepare for and appear at an examination. Exactly how this anxiety-drive functions in relation to examination performance is an intricate point because the manifestations of this drive probably are mediated and partly blurred by a multiple level of functioning (Birney et al., 1969). Broadly there are two lines of thinking on this point. The first view represented by Atkinson and his numerous associates (Atkinson, 1964; Atkinson and Feather, 1966) considers the effect of anxiety on achevement-related performance as essentially debilitating. This view fits into Atkinson's theoretical framework of achievement motivation. The second view represented by Birney, Burdick, and Teevan (1969) with encouraging support from Heckhausen (1967, 1969) leaves the question of manifestations of anxiety behaviour open to discussion. To the former group it is more or less a settled matter whereas the latter group is willing to subscribe to several forms that anxiety behaviour can take in relation to performance on achievement -oriented tasks. In such a background the present study attempts to show the relationship between test anxiety and performance in a real life secondary school examination.

In Table 5.3 the product-moment *r* values between test-anxiety scores and total marks obtained in the examination for boys and girls are shown separately. The *r* value in the case of girls was low, positive, and in the case of boys it was low, negative. The *r* values were not significant statistically in both the cases. These results compared well with those obtained with *n* Achievement in Table 5.1, suggesting that the two achievement-related motives when treated separately and over

the entire range of their respective distributions, did not show any significant relationship to academic achievement.

Table 5.3

Product-Moment *r* between Test-Anxiety Scores and the Total School Examination Marks

Sex group	r	N	p
Girls	.064	89	n.s.
Boys	−.057	294	n.s.

In Table 5.4 the test-anxiety distributions for boys and girls are separately divided into high and low groups and their mean academic performance compared.

Table 5.4

Mean Academic Performance of High and Low Groups on Test-Anxiety

	Test-anxiety scores					
	High			Low		
Sex group	N	Mean% school marks	SD	N	Mean% school marks	SD
Girls	37	34.60	9.06	52	33.16	6.56
Boys	143	34.79	9.71	151	35.38	9.71

Both boys and girls in the 'high' group of the test-anxiety score distribution showed lower mean academic achievement in absolute terms than the boys and girls in the 'low' group. But the mean differences were statistically not significant. It could not be said whether test-anxiety has a facilitating or debilitating effect on academic achievement. Probably there is need to study in depth the situational variables that might mediate the anxiety-academic performance relationship.

In the absence of any definite result about the relationship of *n* Achievement and test-anxiety to performance in the present study when the two motives were treated individually, an attempt was made to compare the results in terms of resultant achievement motivation. The idea was to see if the two motives work in unison

to affect academic performance. Incidentally this step amounted to testing the theoretical formulations of Atkinson (1964). According to this formulation, when subjects are simultaneously classified on the two achievement-related motives (M_S and M_{AF}) into High-Low groups by dividing at the median, the group classified High on M_S and Low on M_{AF} would show greater performance and the group classified High on M_{AF} and Low on M_S would show poor performance with the groups classified High-High and Low-Low on the two motives coming in between. A prediction exactly encompassing these differences in academic performance was made in the case of the present study sample.

Table 5.5 shows these results in the case of boys in the present study sample.

Table 5.5

Mean Performance at School Examination for Boys Classified on *n* Achievement and Anxiety

	Tests		N	Mean marks at school examination	SD	Mean differences	t
	n Achievement	*Anxiety*					
1.	High	Low	87	36.10	10.41	1 & 2	1.44*
2.	Low	High	71	33.78	10.02	1 & 3	1.056
3.	Low	Low	64	34.42	8.75	1 & 4	0.191
4.	High	High	72	35.80	9.40	2 & 4	1.383*

* Significant at $P < .10$, one-tailed test.

The results indicated, as predicted, that the group High on M_S and Low on M_{AF} showed moderately significant, greater performance in comparison to the group classified High on M_{AF} and Low on M_S. Similar results were also reported by Atkinson and Litwin (1960), Smith (1964), and Mehta (1969). The results of the two extreme groups on the two achievement-related motives, when compared in isolation gave the impression that the motive to avoid failure (M_{AF}) had an inhibiting function in resisting and dampening the influence of positive tendency to undertake an achievement-oriented activity, causing a decrement in achievement-oriented performance results. This was exactly how Atkinson (1964) had tried to picture a High M_{AF}

person. But this was not the complete picture emerging from the present study as was evident from Table 5.5 when the results of the two middle groups (Low-Low and High-High) were considered. The High-High group showed a mean percentage performance that was nearly equal to the mean percentage performance of the High M_S-Low M_{AF} group. It was greater than the performance of the High M_{AF}-Low M_S group and the difference was significant. Their performance was also greater than the Low M_S-Low M_{AF} group. This trend in the result casts serious doubt about the description of anxiety as a debilitating influence. It certainly indicated that High M_{AF} was not always debilitating in nature in case of boys.

The results clearly indicated the importance of High n Achievement for better academic performance in the case of boys. About the role of anxiety on academic achievement nothing definite emerged from the results because both High M_S-Low M_{AF} and High M_S-High M_{AF} groups showed greater examination performance. This might mean that either M_{AF} has no effect on school achievement or that the crude grouping adopted in the present study of the two M_{AF} groups divided at the median overshadows the nature of test-anxiety-academic performance relationship.

Table 5.6 shows the results of the girl respondents in the present study. Here the results indicated that the group classified High on both M_S and M_{AF} showed the best mean performance,

Table 5.6

Mean Performance at School Examination for Girls Classified on n Achievement and Test-anxiety

Tests		N	Mean % marks at school examination	SD	Mean difference	t	p^*
n Achievement	Anxiety						
1. High	Low	29	33.13	6.76	1 & 2	0.130	n.s.
2. Low	High	21	33.45	10.01	2 & 4	0.892	n.s.
3. Low	Low	23	33.20	6.31	3 & 4	1.297	n.s.
4. High	High	16	36.12	7.82	1 & 4	1.346	n.s.

* All two-tailed tests.

a finding that did not follow the predictions made on the basis of Atkinson's (1964) formulations. It was also different from the results obtained in the case of boys in that here the High M_S-Low M_{AF} group showed the lowest mean academic performance. It might be that in the case of girls a higher level of avoidant motivation (M_{AF}), when accompanied by a higher n Achievement score, was favourable to better performance on an achievement-oriented activity like at school examination whereas a lower level of M_{AF} in combination with a higher level of n Achievement might have a dampening effect. This observation is more or less speculative at the moment and needs further reasearch in future. However in terms of absolute mean school examination marks the results obtained in case of girls add weight to the finding in case of boys that a higher level of avoidant motivation does not always act as a debilitating influence on achievement-oriented performance.

The findings reported in the case of boys regarding the role of anxiety on academic achievement appeared to be inconclusive because both the High and Low M_{AF} groups in combination with High n Achievement level produced greater academic achievement. The dichotomous grouping adopted to classify the boys on anxiety score distribution might have been responsible for the erratic type of relationship that is attributable to anxiety level and academic achievement. In the case of girls no definite trends emerged as regards the relationship between different levels of anxiety which in combination with n Achievement might have affected academic achievement. It was decided, therefore, to adopt a finer grouping of the anxiety score distributions of boys and girls by dividing them into quartiles first, and then to classify them into three anxiety level groups : High, Morderate, and Low. Under Moderate group were included the middle 50% cases of the distribution with the highest quartile and the lowest quartile falling under High and Low anxiety groups respectively. The n Achievement groups were retained as before. These findings appear in Table 5.7.

From Table 5.7 it can be noted that the mean academic achievement in absolute terms for boys with High n Achievement-High anxiety was lower than the mean for boys with High n Achievement-Moderate anxiety and with High n Achievement-

Table 5.7

**Mean Performance at School Examination for Boys and Girls
Classified on *n* Achievement and Anxiety**

Tests		Boys			Girls		
n Achieve-ment	Anxiety	Mean % examina-tion marks	N	SD	Mean % examina-tion marks	N	SD
High	1. High	34.86	36	6.67	34.12	8	8.92
	2. Moderate	36.43	77	9.47	36.74	24	5.74
	3. Low	36.88	44	11.84	31.44*	13	7.80
Low	4. High	32.66**	26	9.25	32.49	12	8.75
	5. Moderate	35.13	73	9.89	33.71	20	6.22
	6. Low	33.81	38	7.05	33.11	12	5.40

* $p < .05$ for mean differences between 2 & 3 for girls.
** $p < .10$ for mean differences between 2 & 4 and between
3 & 4 for boys.

Low anxiety combinations. Within the High *n* Achievement group, boys in the Moderate and Low anxiety groups showed practically the same mean academic performance. None of the mean values in the case of boys with High *n* Achievement showed significant differences. The same was true of boys with Low *n* Achievement. Within the Low *n* Achievement group of boys, however, those with moderate anxiety showed comparatively greater mean academic achievement. A comparison of the different anxiety groups of boys with High and Low *n* Achievement levels revealed that the Moderate and Low anxiety groups with High *n* Achievement obtained significantly higher mean percentage of the examination marks than the group with Low *n* Achievement-High anxiety combination. The results in case of boys indicated that a higher level of *n* Achievement probably acts as a facilitating influence to academic achievement while a very high level of anxiety probably acts to weaken such achievement.

In the case of girls a comparison of the different groups within the High *n* Achievement level showed greater academic achievement in case of Moderate anxiety group. Here

the Moderate anxiety group showed significantly greater mean academic achievement than the Low anxiety group. The High anxiety group showed slightly greater mean performance than the Low anxiety group, but the difference was not significant. The three anxiety groups within the Low n Achievement group did not show significant differences in their mean achievement in the examination. In absolute terms each of them showed greater mean achievement than the High n Achievement-Low anxiety group. The results thus indicated that the High n Achievement-Moderate anxiety combination was favourable to academic achievement than the High n Achievement-Low anxiety combination. In absolute terms the mean academic achievement of the High n Achievement-Moderate anxiety group came on top of all other n Achievement-anxiety combinations used in this analysis.

The results reported in Table 5.7 appeared to emphasize the importance of considering simultaneously the two achievement-related motives in studies on motivation-performance relationship. These results provided certain pointers relating to levels of the two achievement-related motives conducive to greater academic performance. In both the sex groups a higher level of n Achievement resulted in relatively greater academic achievement. As regards test-anxiety, a moderate level of it appeared to be favourable to greater academic achievement in both boys and girls. The one exception to this was the low anxiety group within the High n Achievement group of boys who also showed greater mean academic achievement. Results from earlier studies (Atkinson and Litwin, 1960; Smith, 1964; Mehta, 1969) differed from the results reported here regarding the level of M_{AF} conducive to greater academic achievement. Whereas their findings reported greater achievement in case of subjects with High n Achievement-Low anxiety status, the present study results pointed to the need of extending this finding to the case of High n Achievement-Moderate anxiety group of boys also. In the case of girls, however, the results reported here pointed to a shift of emphasis from High n Achievement-Low anxiety to High n Achievement-Moderate anxiety combination for greater academic achievement. Thus the findings of the present study appeared to be somewhat different from the findings based on Atkinson's theoretical formulations (Atkinson, 1964;

Atkinson and Feather, 1966) in that they differed from the latter as regards the level of anxiety conducive to academic achievement.

There is need to look afresh at the Atkinson model of achievement motivation which has tried to tie down motive arousal strictly to three variables, namely, motive, expectancy, and incentive, and which combine multiplicatively to determine resultant approach and avoidant motivations. Further, the model assumes that probability and incentive are inversely related. This would amount to narrowing the attribute of incentive to task difficulty alone. That is, Atkinson's concern is mostly limited to considering the individual's perception of the difficulty of a task (probability of success or failure) which, in turn, sets the incentive value of the task for him. This is too arbitrary and restrictive a view which does not conceive of incentives independent of success probabilities. Heckhausen (1969), for example, mentions such incentive factors as personal importance of a task and the distance from the goal object in terms of time; similarly, de Charms (1968) talks of the desire for group approval as an incentive which may function in the tasks performance situation independent of the incentive to do well.

There is comparatively ample evidence gathered by researchers bearing on the relative effectiveness of differential succees probabilities for motive arousal. But research done regarding the potential influence of differential strength of incentives for motive arousal is much less. This is more so in the case of the motive to avoid failure (M_{AF}) or Fear of failure motive (FF). Atkinson (1964) has given too simplified a picture of the reactions of the high M_{AF} person by associating them to task difficultly as it affects the incentive value. Accordingly he theorises that the typical high M_{AF} subject, when faced with an achievement-oriented task, will try to get away from a probable failure experience either by not participating in the activity or by not striving to achieve when participation becomes imperative. In this theory the possibility of the High M_{AF} person concerned about the task difficulty evaluation across people is not considered. That is, the High M_{AF} person's concern might be about the evaluation others would make of him. Birney et al. (1969, p.16) have pointed out this possibility when they say that "a fear of failure attitude is not monolithic but can involve two kinds of fears : (i) a lowered self estimate, and (ii) a lowered evaluation by others." Under conditions, where it is not possible for the moderately high M_{AF} subject

to get out of the achievement-oriented situation and where his poor performance would result in lowered evaluation by others, it is conceivable that he will adopt the technique of avoiding failure by succeeding. The pursuit of academic success seems to come under this category because here leaving the situation and/or doing poorly in its pursuit would mean non-compliance with the demands of teachers and parents. Examinations are a part and parcel of the educational system. Past experience has taught the pupils that examination is a normal feature of their studentship and so it is nothing very much threatening. Hence it appears that anxiety remaining at a moderately high level, pupils with high n Achievement scores are likely to do well in school examinations because here anxiety could mean concern to be conscious about the expectations of the reference systems of self-esteem such as parents, teachers, siblings, peers, and others.

Following the finding in the present study that a moderate level of M_{AF} need not necessarily cause a decrement in academic performance, an attempt was made to separate school variables affecting expectations of school teachers which, in turn, might have affected the expectations of students regarding such performance. No direct data on teacher expectation were available. It was therefore decided to look for indirect evidence on teacher expectations that might have resulted from 'pressures' in the school situation. Past achieving status of school and the management pattern of school were tentatively identified as two such influences. The assumption was that these influences would exert pressure on the teacher evoking differential levels of anxiety in them. This anxiety might be conveyed to their pupils by the teachers in their person-to-person and person-to-classroom group interaction. The pupils thereafter strive to reduce the anxiety level through some mechanism or other. This kind of anxiety being not too threatening to the pupils because of their past acquaintance with such anxiety-ridden academic situations, it was assumed that anxiety reduction might take the form of success striving which is the sure and permanent way of coping with such anxiety. In other words it was predicted that schools with differential past achieving status and which are functioning under different management systems would evoke differential levels of anxiety. Further it was predicted that in schools where the anxiety level remained at moderately high level, the relationship between n Achievement

and academic achievement would tend to be positive and significant. Keeping this in view the product-moment r between n Achievement and academic achievement was computed for a representative sample of schools. The following points were considered for the inclusion of a school in the sample : achieving status of the schoool, school management, and average anxiety level of the school group as a whole. The results appear in Table 5.8.

Table 5.8

Product Moment r Between n Achievement and Academic Achievement by Schools

School	Achieving status	Management	Anxiety level	N	r	p
1. B.SS-4	High	Private, aided	High	29	.400	.05
2. G.SS-1	High	Private, aided	Low	16	.368	n.s.
3. C.SS-4	High	Private, aided	Moderate	56	.365	.01
4. G.SS-3	Moderate	Government	Low	25	.237	n.s.
5. B.SS-6	Moderate	Private, aided	Low	37	.172	n.s.
6. C.SS-3	Moderate	Private, aided	Low	24	.046	n.s.
7. B.SS-2	Low	Private, aided	Moderate	19	.023	n.s.
8. C.SS-2	Low	Private, aided	Moderate	21	.607	.01
9. G.SS-2	Low	Private, aided	High	12	.336	n.s.
10. B.SS-5	Low	Private, Un-aided	Moderate	38	.014	n.s.

It can be seen from Table 5. 8 that high achieving status (AS) schools in general showed moderate, positive r values between n Achievement and academic achievement. Middle AS schools showed very low positive or negative r values. Among the low AS schools the r values were all positive, but only one result was significant. All the schools showing significant and positive r between n Achievement and academic achievement were government aided private schools. The only school under government exhibited negative, but insignificant r between n Achievement and academic achivment. The schools when classified on the basis of mean anxiety level of their pupils, it was observed that in all cases

where anxiety was either moderate or high, n Achievement-performance relationship was positive, and in three out of five schools it was significant. Just how anxiety worked to cause the signficant relationship was not clear. But some probabilities were evident. Achieving status of a school might account for some of the results obtained here. In Assam recognition of aided secondary schools by the State Education Department is tied up with examination results of a school at the Assam Secondary Education Board's examinations. A school must continue to show uniformly good results year after year to qualify to receive State recognition and continuous flow of State grants. This affects mostly the government aided private schools and least the government schools. In government aided private schools, therefore, it is natural for the teachers to be concerned about their students' examination results. This concern may reflect in their dealings with pupils who might also become anxious to live up to their teachers' expectations. There is some evidence (Rosenthal and Jacobson, 1968) to show that the teacher's expectations communicated in some form to the pupils help them to learn by changing their self-concept, their expectations of their behaviour, and their motivation, as well as their cognitive style and skills. In the case of schools showing uniformly good examination results year after year there is probably less need for teachers to become highly anxious about the examination results. It is probable that the high achieving status of these schools is a source of protection against their becoming too anxious about failure. But at the same time they have to guard against tendencies of shirking work. So a moderately high level of anxiety is what might have been built up in the pupils of these schools. The results obtained here only suggest that the moderate to moderately high level of anxiety caused by 'pressure' resulting from teacher-pupil relationship emanating from school-achieving-status-consciousness might be acting in conjunction with n Achievement to enhance academic performance. In the comparable study reported by Mehta (1969) there was no special reason to assume the presence of pressure-provoked–anxiety in the school situation because his sample of schools worked under very different conditions of administration and control. This might explain why he obtained low to negative r values between n Achievement and academic achievement in cases of schools with above median anxiety levels.

Achievement-Related Motivation and Scholastic Aspiration

The study of level of aspiration in individuals involves essentially an analysis of their behaviour in a choice situation where a decision is made between alternatives having different subjective probabilities of attainment. The works of Hoppe (1930), Dembo (1931), Jucknat (1937), Sears (1940), and Rotter (1943, 1954) have contributed considerably to our understanding of both the methodological and content aspects of aspirational phenomena. However, the decision-making behaviour of individuals has received still more attention in the works of Lewin (1938), Escalona (1940), Festinger (1942), Cartwright and Festinger (1943) who have all contributed to the building up of a theory of decision, incorporating in it the essential ideas of a simple motivational conflict and its resolution in connection with studies involving difficult perceptual discrimination. The decision theory as it emerged out of these efforts, considered level of aspiration as the resolution of a conflict in which the following factors are involved : Valence of success, valence of failure, expectancy of success and expectancy of failure in relation to the person. Festinger (1942, p. 239–240) defines these factors as follows:

"Valence of success is defined as the positive valence of future success as it appears to the person when setting his goal. This valence would be very low, or perhaps zero at the very

easy levels and would rise to a maximum at the difficult levels of performance.

"Valence of failures is similarly defined as the negative valence of future failure as it appears to the subject when setting his goal. This curve would be high at the easy levels and low at the difficult levels.

"Expectancy of success is defined as the judgment of the individual at the time when he sets his goal as to the probability of reaching a given level of performance.

"Expectancy of failure is correspondingly defined as the subjective probability of failure at the time of setting the goal."

An important out growth of this earlier conception of a decision theory first presented by Escalona (1940) and elaborated by Festinger (1942), Lewin, Dembo, Festinger, and Sears (1944) as the "resultant valence theory" of level of aspiration, is the work of Atkinson and associates in connection with their studies on risk-taking behaviour and the formulation of the theory of achievement motivation (Atkinson, 1964; Atkinson and Feather, 1966). According to the theory of achievement motivation, n Achievement would be positively related and anxiety negatively related to preference for intermediate risk in situations of an achievement-oriented type where it is important for the indviduals concerned to use their abilities and skills in performance. The theory further predicts that when individuals are simultaneously classified on the two achievement-related motives into high and low groups by dividing at the median of each distribution, the group classified as high on n Achievement and low on test-anxiety (called the Achievement-oriented personality) would show preference for intermediate risk while the group classified as low on n Achievement and high on test-anxiety (called the Failure-threatened personality) would show least preference for intermediate risk with the individuals classified high or low on both the motives falling in between the extreme groups in degree of preference for intermediate risk. Empirical support for the theoretical formulation has come from several studies: McClelland (1958), Atkinson (1958), Clark, Teevan, and Ricciuti (1956), Atkinson and Litwin (1960), Atkinson, Bastian, Earl and Litwin (1960), Mahone (1960), and Brody (1963).

In the present study level of aspiration of the pupils of a higher secondary school was studied in the context of a critical goal event,

an important school examination which the pupils were going to take two days after the aspiration level was set. The aspiration level, expressed in the form of a decision taken, pertained to a choice they had to make regarding the expected achievement level in the examination they were going to take. It was essentially a choice situation in which a decision had to be made about the level aspired to be achieved from a number of alternatives with different difficulty ranges. It was assumed that the level of aspiration with a critical goal event lying ahead and whose outcome was still open at the time of the goal setting, would cause anticipation about the outcome of the goal event when it actually took place. This anticipation of the goal event was assumed to cue off a motive arousal, interacting with the motive dispositions. The major purpose of the present study was to examine the case of achievement motive arousal in a group of pupils who stated their scholastic aspiration in the background of a critical goal event.

The information regarding scholastic aspiration of the pupils was collected by administering a single-item questionnaire in the usual class room social situation. The questionnaire item read as follows: "What percentage of aggregate marks do you expect to score in the forthcoming Test examination? "

The pupils were instructed to express their aspiration level by making a choice from among the ten choice points provided in the questionnaire (Appendix III). The choice situation was definitely not a novel one because all the pupils were familiar with goal events of the type pertaining to the goal situation then before them. Past school examinations taken by the pupils were assumed to function as sources of important information in preparing them to face similar situations later. It was, therefore, assumed that the individual aspiration level controlled elegantly for individual differences in competence in scholastic performance. This procedure permitted to determine each pupil's perceived probability of success without any reference to group or class norms of performance.

The subjects in the present study were 35 boys and 8 girls of Class XI of a government-aided higher secondary school. For each of the pupils the total marks obtained in an important class promotion examination taken by them prior to the goal setting were collected, and these were converted into percentage of the total marks. These percentages were used as indices of past scholastic

performance. Similarly for each pupil the total marks obtained in the examination (Test examination) representing the critical goal event that occurred two days after the goal setting exercise, were collected and converted into percentages of the total marks. These percentages were taken as indices of actual scholastic achievement for which a decision was made earlier. Then the indices of goal discrepancy were computed for each pupil as follows:

Subjective goal discrepancy = Attainment level aspired—actual attainment prior to goal setting.

The goal discrepancy score could take either positive or negative sign depending on the diffeerence of the two values being positive or negative. However, in the present study sample all subjects showed positive discrepancy scores. For the entire sample of pupils both *n* Achievement and anxiety scores were also collected. In the analysis followed in this chapter the aspiration data used were those transformed into subjective goal discrepancy scores.

Subjective Goal Discrepancy, *n* Achievement, and Anxiety

The subjective goal discrepancy, as it reflects the over-all picture of an individual's conception of 'attainable' and 'non-attainable' goals, is likely to show his concern to appear 'modest' or 'over-confident' in goal setting situations. It was thought that the strengths of the two achievement-related motive dispositions in the sample of pupils would show different relationship patterns to the subjective goal discrepancy scores. This tentative assumption was made on the basis of a finding reported by Feather (1965) that subjects' expectations of success prior to task performance was positively related to *n* Achievement and negatively related to anxiety in a situation providing the opportunity for personal accomplishment. Accordingly correlation coefficients were computed between goal discrepancy scores and *n* Achievement scores as well as anxiety scores for boys and girls separately. The results appear in Tables 6. 1 and 6. 2 for girls and boys respectively.

Table 6.1

Correlation Coefficients T (Kendall's Tau) between Subjective Goal Discrepancy Scores and *n* Achievement as well as Anxiety for Girls

Subjective goal discrepancy	*n* Achievement	Anxiety
	— .340*	— .618**

*< .19, **p< .03

Table 6.2

Rank Correlation Coefficients Between Subjective Goal Discrepancy Scores and *n* Achievement as well as Anxiety for Boys

	n Achievement	*Anxiety*
Subjective goal discrepancy	—. 044	0.159

The relationship between goal discrepancy scores and *n* Achievement was negative in both the sex groups. But whereas in the case of girls it was slightly significant, it was not so in the case of boys. Thus a higher level of *n* Achievement in girls was vaguely indicative of a lower goal discrepancy score and vice versa. In the case of boys no definitely predictable relationship existed between *n* Achievement and goal discrepancy.

The relationship between goal discrepancy scores and anxiety was significantly negative in case of girls. It was positive in case of boys, but not significant. Thus higher anxiety level in girls showed definite preference for low goal discrepancy. A low discrepancy score being an indicator of the close proximity between past performance and goal setting for future performance, must also repesent a realistic aspiration level within bounds of the aspirer. The result obtained here regarding the association of high anxiety level with low discrepancy level in the case of girls called for interpretations other than considering anxiety behaviour as avoidance of achievement alone. This point is elaborated elsewhere in this chapter.

The over-all picture obtained from the above analysis showing the relationship between goal discrepancy scores and the two achievement-related dispositions did not bring out the nature of relationship at various levels of the two achievement-related motive score distributions. So an attempt was made to compare the mean discrepancy scores of the High and Low motive groups divided at the median of their respective score distributions. These results appear in Tables 6.3 and 6.4 for the *n* Achievement and anxiety score distributions respectively.

Table 6.3

Mean Goal Discrepancy Scores of High and Low *n* Achievement Groups by Sex

Sex	n Achievement	N	Mean goal discrepancy score	SD	Mean differences	t	p
Boys	1. High	20	18.45	12.28	1 and 2	0.801	n.s.
	2. Low	15	15.46	8.88	1 and 3	0.415	n.s.
Girls	3. High	3	15.43	3.41	3 and 4	1,002	n.s.
	4. Low	5	19.56	6.53	2 and 4	0.946	n.s.

The results in Table 6.3 indicated how the High and Low *n* Achievement group of boys and girls differed in their pattern of absolute goal discrepancy scores. Whereas the High *n* Achievement group of boys showed higher mean discrepancy score in absolute terms than the Low *n* Achievement group of boys, the results in the case of girls showed just the opposite trend in their absolute mean discrepancy scores. However, none of the mean differences reached the significant level. Tamhankar (1967), in a comparable study found no difference in the discrepancy scores between High and Low *n* Achievement group of boys. Nevertheless the results reported here vaguely suggested that a higher level of *n* Achievement as compared to a lower level in boys might result in the setting of too over optimistic aspiration whereas the opposite trend appeared to be true in the case of girls. These results need to be confirmed in future research to say anything conclusively regarding the role of *n* Achievement in scholastic aspirational goal setting.

Table 6.4

Mean Goal Discrepancy Scores of High and Low Anxiety Groups by Sex

Sex	Anxiety	N	Mean goal discrepancy score	SD	Mean differences	t	p
Boys	1. High	18	19.78	9.60	1 and 2	1.310	n.s.
	2. Low	17	14.97	11.74	1 and 3	1.080	n.s.
Girls	3. High	3	13.61	3.99	3 and 4	1.990	.10
	4. Low	5	20.70	5.27	2 and 4	1.040	n.s.

Anxiety score groups also showed opposite trends in terms of the absolute mean goal discrepancy scores in the case of boys and girls (Table 6.4), and the pattern of differences were in the same direction as in the case of the *n* Achievement score groups. Girls with above median anxiety scores showed significantly lower mean goal discrepancy score than the girls with below median anxiety scores. In the case of boys a higher anxiety level was suggestively different from a lower level of anxiety in their respective strategies of goal setting in school situations as could be inferred from their absolute mean discrepancy scores. This trend in the result was found to be the opposite of what Littig (1963) had found with a group of Grammar school boys.

Taken together, the results in Tables 6.3 and 6.4 provided suggestive pointers regarding the patterns of goal setting made to indicate scholastic aspiration by boys and girls with different achievement-related motivation levels. In the case of boys a comparatively lower level of *n* Achievement as well as anxiety showed a lower absolute mean goal discrepancy score. Of all the differences in the absolute mean discrepancy scores noted in the present study only the anxiety score groups in the case of girls showed statistically significant difference. All the other results need to be confirmed in future studies with similar samples. The results noted here prompted to make a check on the goal discrepancy score patterns of groups of subjects classified simultaneously into High and Low groups (at median) on *n* Achievement and anxiety. The number of girls included being small for such grouping, only boys were studied. These results appear in Table 6.5.

Table 6.5

Mean Goal Discrepancy Scores of Boys Classified High and Low on *n* Achievement and Anxiety

Motive strength		Goal discrepancy			Mean		
n Achievement	Anxiety	N	Mean	SD	difference	t	p
1. High	Low	11	15.74	13.42	1 and 3	1.065	n.s.
2. Low	High	7	15.88	8.61	2 and 3	1.172	n.s.
3. High	High	9	21.79	10.94	3 and 4	1.144	n.s.
4. Low	Low	8	16.10	8.47			

The group classified High on both the achievement-related motives showed the greatest absolute mean discrepancy score and was followed by the groups Low-Low, Low-High, and High-Low in that order. None of the differences in the mean discrepancy scores were statistically significant. The suggestive trend in the result appeared to isolate the group with both n Achievement and anxiety scores in the above median range as the one that showed comparatively greater goal discrepancy score. What it actually indicated was not clear. It might be that boys with both the motive dispositions stronger tended to be simply optimistic without concern for the difficulties in attaining the goals while setting aspiration level in an academic situation. This optimism might be due to their concentration on extrinsic goals like group approval rather than on intrinsic goals like self esteem. Whether the optimism was a hollow one or not was examined elsewhere in the present chapter by comparing the actual examination performances of boys with different goal discrepancy scores. All that appeared to come out of the results here was that the High-High group of boys set scholastic aspiration levels that were much higher in relation to their immediate past performance in a similar situational context. All the other n Achievement-anxiety combination groups appeared to make more or less the same goal discrepancy scores that probably exhibited some amount of optimism that was probably within attainable bounds. These results were different from those reported by de Charms and Dave (1965) in their risk-taking behaviour experiment involving volleyball shooting into a basket in which only the High n Achievement-High anxiety group showed preference for moderate risks indicative of their concern for a realistic aspiration. It was also different from the results obtained by Brody (1963), and Atkinson and O'Conner (1966) that the High n Achievement-Low anxiety S_S as compared to High anxiety-Low n Achievement S_S showed preference for intermediate risk.

To the extent that the goal discrepancy scores are reflective of the subjective goal choices made prior to the occurrence of the goal event, they indicate the risk-taking strategy of the subjects. In several past studies on risk-taking behaviour a typical result obtained was a curvilinear relationship between n Achievement and risk-taking, with high achievement motivation associated with intermediate risk (McClelland, 1958; 1961; Atkinson and Litwin, 1960; Isaacson, 1964). Similarly a higher level of anxiety was, in many past

studies, found to be associated with extreme rather than intermediate levels of risk-taking (Moulton, 1965; Littig, 1963). But a typical results were also reported by several researchers. Thus Litwin and Ciarlo (1960) found intermediate risk on a 'Decision-making Test' not related to *n* Achievement or debilitating anxiety in a sample of businessmen.

The goal setting situation in the present study contained certain special motive arousal properties. First, the goal event was situated at a time distance of less than two days from the goal setting situation. Second, the goal event being a critical one in the real academic life of the pupils provided sufficient relevant cues to goal setting. These two properties correspond to Heckhausen's (1969) "perceived time distance to the goal event" and "goal relevant anticipation" respectively. Under such conditions of motive arousal, it was decided to study, just how different levels of goal discrepancy were associated with the two motive dispositions of achievement motivation and anxiety as well as the actual performance at the critical goal event for which the aspiration level was set earlier. All the pupils in the present study sample exhibited positive goal discrepancy. The goal discrepancy distribution was divided into five goal discrepancy groups each of which corresponded to twenty percentiles. These were arbitrarily labelled as 'very low', 'low', 'moderate', 'high' and 'very high' groups in the order of increasing percentile discrepancy score values. The number of girls included in the study was only 8, and so they were excluded from this analysis. The mean *n* Achievement and anxiety scores of boys from these discrepancy score groups are shown in Table 6.6.

Table 6.6

Mean *n* Achievement and Anxiety Scores for the Five Goal Discrepancy Groups of Boys

Goal discrepancy group	N	*n* Achievement		Anxiety	
		Mean	SD	Mean	SD
1. Very low	9	5.55	5.39	5.88	2.23
2. Low	6	4.33	8.15	6.33	3.25
3. Moderate	5	3.40	5.67	8.00	2.45
4. High	6	3.66	3.85	7.16	3.13
5. Very high	9	4.33	4.31	6.77	2.19

The mean *n* Achievement was greatest in the case of the lowest goal discrepancy group of boys and it was smallest in the case of the 'moderate' goal discrepancy group of boys. The 'low' and 'very high' groups showed the same mean *n* Achievement score. The graph (Fig. 6.1) drawn to represent these data appeared to take a U–shaped pattern. This probably indicated that the group possessing higher *n* Achievement level attempted to set a scholastic aspiration level not very higher then their last scholastic performance level. Does it suggest that the high need achiever has a better sense of judgement in fixing his subjective probability of success while setting goal in an activity of a familiar type but with an uncertain outcome ? Assuming that the variability for each of the present study sample of boys in performance at various academic examinations to be small, a small positive goal discrepancy in the present study must have represented the most realistic decision in goal setting because then it was neither too modest nor too ambitious a goal. From this point of view, the group with moderate *n* Achievement level in the present study probably represented the most unrealistic group of scholastic aspirers because boys with such *n* Achievement level appeared to choose their aspiration levels at the low and/or very high end of the discrepancy score distribution. The group with 'moderate' goal discrepancy had the smallest mean *n* Achievement score. This might be the group who avoided the two extreme levels of goal discrepancy. As all the subjects in the present study showed positive goal discrepancy scores it appeared that for a discrepancy score to lie between 40–60 percentile range of the positive goal discrepancy score distribution must have involved a moderate risk in the goal setting situation. How nearer such a risk level could be to a realistic aspiration level was examined by comparing the actual performances of the various goal discrepancy groups in the critical goal event (Test examination) and is reported elsewhere in this chapter.

The mean anxiety scores of the different goal discrepancy level groups (Table 6.6) exhibited a pattern quite different from the one obtained in the case of *n* Achievement. These scores when graphically represented resulted in an irregular, inverted U-type outline (Fig.6.1) showing the greatest mean anxiety score against the 'moderate' goal discrepancy score group of boys. This trend in the result appeared contrary to results obtained by other researchers who found

GOAL DISCREPANCY GROUPS
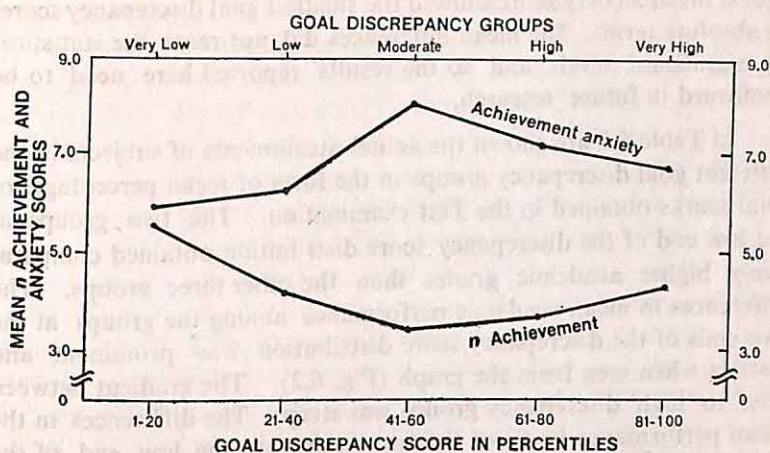
Fig 6.1 : *n* Achievement and Anxiety Score of Different Goal
Discrepancy Score Groups

high anxiety subjects setting aspiration levels either much below their
performance (Frank, 1935 ; Sears, 1940) or much above it (Schroeder
and Hunt, 1957). In the present study boys with moderate to
moderatly high levels of anxiety probably exhibited a somewhat

GOAL DISCREPANCY GROUPS
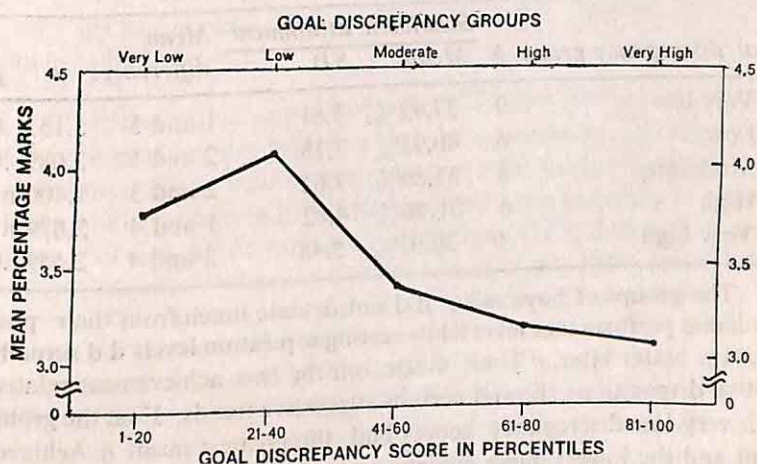
Fig 6.2 : Mean Scholastic Scores in Percentiles
Different Goal Discrepancy Groups

erratic pattern of goal discrepancy. There might be the boys who
set their aspiration levels with great variability. But the boys with

lowest mean anxiety score showed the smallest goal discrepancy scores in absolute terms. The mean differences did not reach the statistically significant levels and so the results reported here need to be confirmed in future research.

In Table 6.7 are shown the actual ateainments of subjects in the different goal discrepancy groups in the form of mean percentages of total marks obtained in the Test examination. The two groups at the low end of the discrepancy score distribution obtained comparatively higher academic grades than the other three groups. The differences in mean academic performance among the groups at the two ends of the discrepancy score distribution was prominent and distinct when seen from the graph (Fig. 6.2). The gradient between 'low' to 'high' discrepancy groups was steep. The differences in the mean performance levels of the two groups at the low end of the scale with the two groups at the high end of the scale, when considered individually, were all statistically significant.

Table 6.7

Mean Scholastic Attainment of the Five Goal Discrepancy Groups of Boys

Goal discrepancy group	N	Scholastic attainment		Mean differences	t	p
		Mean	SD			
1. Very low	9	37.92%	3.81	1 and 5	3.153	.01
2. Low	6	40.95%	7.18	2 and 5	3.089	.01
3. Moderate	5	33.86%	7.62	2 and 3	1.400	n.s.
4. High	6	31.96%	4.82	1 and 4	2.679	n.s.
5. Very high	9	30.91%	5.48	2 and 4	2.559	.05

The groups of boys who did not deviate much from their past academic performance level while setting aspiration levels did actually perform better later. Their status on the two achievement-related motive dispositions showed certain suggestive trends. First the group with very low discrepancy scores had the greatest mean n Achievement and the lowest mean anxiety scores and their actual scholastic performance was significantly greater than the groups with high to very high goal discrepancy scores. The latter groups showed comparatively smaller mean n Achievement scores and greater anxiety scores than the former group. The boys under 'low' discrepancy

group had comparably similar mean *n* Achievement and anxiety scores as the 'very high' discrepancy group. But the 'low' discrepancy group showed significantly greater scholastic performance than the 'very high' discrepancy group. It might be that boys with intermediate levels of *n* Achievement and anxiety did not show any preference for a particular risk level in scholastic goal setting situations and that their actual performance also showed variability of a significant dimension. The group with the lowest mean *n* Achievement score and the greatest mean anxiety score came under the moderate discrepancy score group, and the mean scholastic attainment of this group also came between the extremes. This probably represented a suggestive finding that boys with low *n* Achievement level and high anxiety level did not choose too inflated a level of scholastic aspiration. Assuming that a moderate goal discrepancy level in the present analysis corresponded to a probability of success around .50, the finding in the present study probably differed from the contention of Atkinson and associates that subjects with a predominant approach motive (*n* Achievement) as compared to a predominant avoidance motive (anxiety) preferred probabilities at .50 or a little below (.20 to .40) (Atkinson and Litwin, 1960; Atkinson, 1958; Litwin, 1958; Meyer, et al., 1965; deCharms and Dave, 1965; Atkinson, Bastain, Earl, and Litwin, 1960).

Of special significance were the findings regarding the role of anxiety in goal setting behaviour involving decision making under uncertainty. This was so because the high anxiety person's goal setting was described in many past studies as representing a general category of 'unrealistic aspiration' (Mahone, 1960) under which were included the claims of 'over' (Schroder and Hunt, 1957) and 'under' (Frank, 1935; Sears, 1940) aspirations. Such a picture of the highly anxious person also fitted well into the theoretical position taken by Atkinson and associates (Atkinson, 1964; Atkinson and Feather, 1966) regarding anxiety or fear of failure motive and goal setting behaviour. In their view setting an unrealistic aspiration level serves as a means for the highly anxious person to get out of his anxiety. If one only stopped to think about this position, it would soon appear too narrow and one sided. By setting a lower aspiration level than one's performance would permit, the high-anxiety person would avoid a failure situation and would probably be free of social criti-

cism for being 'unrealistic', but he would lose the opportunity of taking full credit for exceptionally good performance which he could if he had set an attainably high goal level. It would be odd to believe that a person becomes a success merely when he attains or over attains what he said he would. There probably is much truth in what Birney et al. (1969) have said about the Fear of Failure motive: 'If Fear of Failure is to have some meaning to the individual it must be assumed that the individual who is afraid of failing is taking some responsibility for his non-attainment.'

Birney et al. (1969) have tried to identify at least three dimensions of the Fear of Failure motivation : Self devaluation, fear of punishment, and fear of losing social esteem. The critical goal event in the present study for which aspiration levels were set by the subjects in advance probably could evoke all kinds of anxiety or fear of failure in them. First, there probably was fear of self-devaluation in the sense that aspiring at a lower level of scholastic performance would amount to admitting failure in advance in courses of study which one took up with the intention of passing by constant striving. This must be embarrassing to the self and could cause a fall in the self-esteem. Second, there probably was fear of punishment by the school. The schools may, on grounds of poor Test examination performance, deny selection to a pupil to appear at the Assam Secondary Education Bord's School Leaving Certificate Examination. This would amount to waiting for yet another academic year before one may get a chance again. Third, there was the fear of losing social esteem through social ridicule for low level scholastic aspiration and performance, or social rejection for being 'unrealistic' in setting the scholastic aspiration level. The best method to accrue social esteem is to set a high aspiration level and to attain it. As it is not possible for all students to make high attainments, the next best thing might be to set modestly high yet realistic aspiration levels. Such an aspiration choice level might help to meet the challenge posed by all three kinds of anxiety. The moderate goal discrepancy level of the high-anxiety group coupled with their relatively moderate scholastic attainment are probable pointers to the high anxiety person's concern about showing a high degree of rationality in choice at a serious academic task. Some evidence in support of this is reported by Hancock and Teevan (1964). An earlier section reporting differences in the goal discrepancy scores between high and low

anxiety groups of girls provided more significant results in support of the above contention. It would appear that high anxiety here acted as a reinforcing mechanism for achievement expectancy of a high but realistic level. This role of anxiety has found some support in the writings of Davis (1944), Horney (1937), Evelyn (1952), and Dynes, Clark, and Dinitze (1956). The results reported here about the effect of anxiety on goal setting behaviour called for a rechecking of the formulations of Atkinson and associates (Atkinson, 1964; Atkinson and Feather, 1966) on achievement-related behaviour. They also seemed to question the validity of findings concerning individual risk-taking based on the formulations of Kogan and Wallach (1964, 1967). This formulation is an attempt to explain vnusual shifts in sequential risk-taking without recourse to the achievement motivation theory (Atkinson, 1958, 1964; Atkinson and Feather, 1966) or to *n* Achievement. It makes a distinction between motivationally and cognitively determined risk-takers as regards their preferred risk-taking strategies, termed respectively as irrational and rational risk-taking. Here the motivationally determined risk-taker is presumed to be high on both test-taking anxiety and defensiveness and the cognitively determined risk-taker is presumed to be low on both these presonality variables. The common meeting ground of Atkinson's theory and the Kogan-Wallach formulation lies in their contention regarding the irrational risk-taking behaviour of high anxiety subjects. This contention did not find support from results obtained in the present study. It might be that both these theoretical formulations overlook the contribution of an inter-personal background surrounding the goal setting situation in aspiration studies, and emphasize only the contribution of the person's motivational equipment. Heckhausen (1967, pp.85-86) referred to this neglect in past research on level of aspiration when he wrote that "level of aspiration is not merely an achievement related phenomenon. We find it in all person-environment relationships, which, in one way or another, affect self-esteem and thereby norms that are organised apperceptively around ethical, political, social, economic, or social prestige matters."

Summary and
Conclusions of Research

The research reported in this book was undertaken to assess the levels of achievement-related motivation in various categories of seconadry school pupils of Upper Assam. It was conducted on boys and girls of grades X and XI, drawn from different racial backgrounds, different socio-economic strata, and from rural and urban areas. In the preceding chapters were presented findings based on survey of the strengths of the achievement motive and the motive to avoid failure in different groups of pupils and the probable relationship of these motives to performance variables like performance in an examination and scholastic aspiration.

Following were the main results of the research :

1. The level of achievement motivation was significantly higher in tribal pupils, girls, and rural pupils than in non-tribal pupils, boys, and urban pupils respectively. Probable factors associated with n achievement in these groups of pupils were discussed. A probable explanation for the higher levels of n Achiement in tribals, girls, and rural childern was given that took into account the general socio-cultural backwardness of these groups and their expanding expectations in the changed and changing contexts of free India. The higher level of n Achievement in these groups was looked upon as an urge to improve their living conditions.

2. The different socio-economic status groups of urban boys and girls did not show significant differences in their n Achievement levels.

The urban tribal boys from different SES backgrounds showed no difference in their *n* Achievement levels. But the non-tribal urban boys from high and middle SES classes showed significantly higher motive levels then such boys from low SES class. Ths low SES group of non-tribal urban boys obtained significantly lower mean *n* Achievement than middle and low SES groups of urban tribal boys.

None of the three SES variables of parental education, income and occupation, when considered individually, showed any definite relationship to *n* Achevement level of boys and girls. But when the pupils were grouped on racial and area of residence variables, it was seen that non-tribal pupils from higher backgrounds on these variables showed significantly higher *n* Achievement levels than such boys from lower backgrounds. Such differences in *n* Achievement levels were not found in case of tribal pupils from different backgrounds on the SES variables. Similarly rural boys from different backgrounds on the SES variables did not generally differ in their *n* Achievement levels, but urban pupils exhibited differences similar to those shown by non-tribals.

3. Pupils from girls' schools and co-educational schools showed significantly higher level of *n* Achievement than those from boys' schools.

4. Pupils attending schools under different types of management did not differ in their level of *n* Achievement.

5. Pupils from schools with either average or high achieving status showed slightly higher level of achievement motivation than pupils from low achieveving status school. The probable influence of teacher expectations on pupil achievement mediating the relationship between school achieving status and *n* Achievement in pupils was discussed.

6. Achievement-related anxiety levels did not show significant differences between tribals and non-tribals, boys and girls, and between rural and urban pupils.

7. SES was not related to achievement anxiety levels in pupils. The three SES variables of education, income, and occupation, when considered individually, also did not show differences in anxiety levels in boys and girls. The only exception was the significantly different anxiety levels shown by pupils with a professional and semi-professional background.

8. Among the school variables considered, only achieving status of school showed some relationship to anxiety level in pupils. High achieving school pupils showed significantly higher anxiety level than pupils from average achieving status schools.

9. Neither n Aehievement nor anxiety showed significant relationship to academic achievement of boys and girls. But when both the motive dispositions were considered simultaneously, boys with high n Achievement (above median) and low anxiety level (below median) obtained higher examination marks than boys with low n Achevement and high anxiety scores. The difference was slightly significant. Boys with high n Achievement and moderate anxiety (the two middle quartiles combined) levels also showed comparatively greater academic achievement. In case of girls a higher levels on both motives appeared to be condusive to greater academic achievement. The Atkinsonian model of achievement motivation appeared inadequate to explain all the findings obtained showing the relationship between achievement-related motives and academic performance. Suggestions to broaden the scope of the incentive term in Atkinson's model were made.

10. The relationship between n Achievement as well as anxiety with subjective goal discrepancy scores was not significant in case of boys. But in case of girls both the motives showed negative relationship significant in varying degrees. High n Achievement level in all groups showed a trend to go with low goal discrepancy level. High anxiety level was associated with low goal discrepany in girls. Boys with high anxiety levels appeared to show a high degree of rationality in choice of their aspiratlon level as became evident by comparing their goal discrepancy level and actual performance at the goal event.

Suggested Future Research

A number of problems were raised in the course of discussion of the finding in the present research. The following are some specific areas to which attention of furthre research on achievement-related motivation may be given :

1. Cross-cultural research surveys of achievement motive and achievement anxiety in children of backward sections.

2. Systematic studies on parental attitudes and aspirations in socio-culturally backward sections and the levels of n Achievement and achievement anxiety in their children.

3. Follow-up studies of eductional and vocational careers of childern with different levels of achievement motivation and achievement anxiety.

4. Teacher behaviour, particularly teacher expectations of pupils' achievements in different school systems and its relevance to the development of *n* Achievement and achievement anxiety in pupils.

5. Studies involving the quality of affective-social climate in different schools systems and its bearing on the development of achievement strivings in school children.

6. Relationship studies between social class variables and achievement-related motives by controlling all known sources of variation of motive levels.

7. Studies involving incentive conditions like group approval, selfe-steem and social esteem as applied to academic achievement and scholastic aspiration in pupils with different levels of achievement motivation and achievement anxiety.

8. Studies on relationship between self-responsibility and performance in achievement-oriented situations in pupils with different levels of achievement motivation and achievement anxiety.

9. Studies involving comparability of measures obtained by administering different types of tools in the area of achievement related motivation.

10. Studies on the origins of 'autonomous', 'personal', 'social', and 'group' achievement motivation in childern from different socio-cultural and economic backgrounds.

APPENDIX I
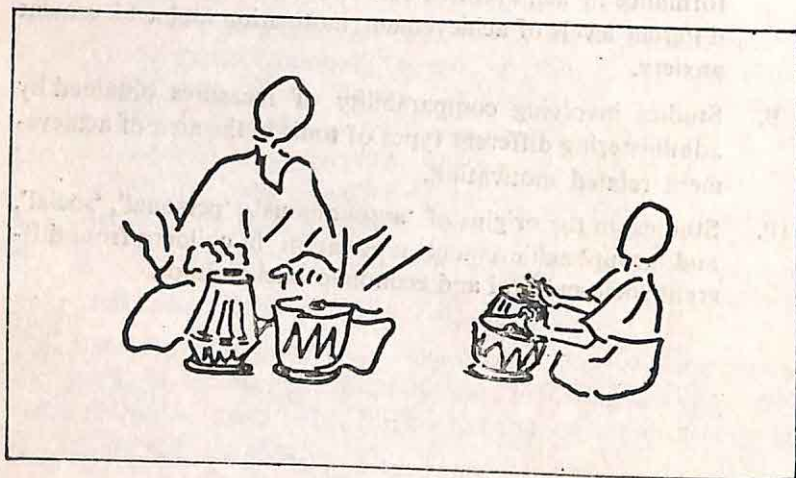
Set of TAT Pictures*
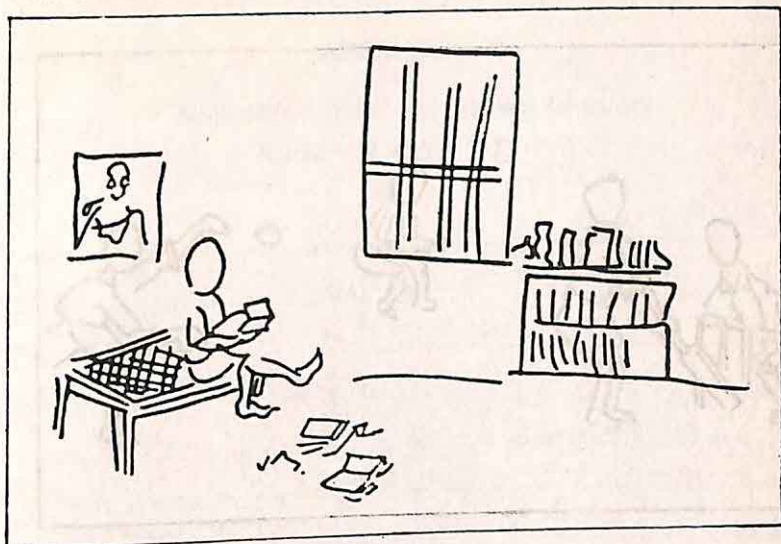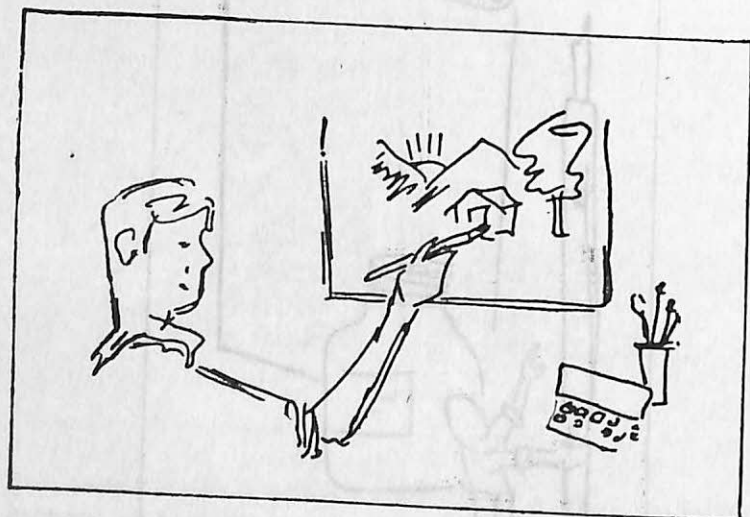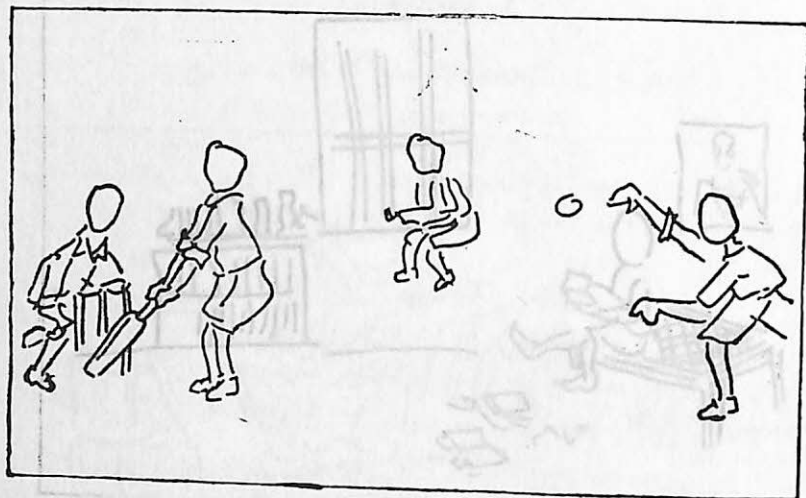
APPENDIX II

Achievement Value and Anxiety Inventory

N.I.E.—M.A.T. : V FORM

002 : 3

Name........ ....Roll No..................Age................

Father's Name..

Name of the School and Address..

Class......................Section......... ....Date today..................

Instructions

Few settings related to the behaviour of boys like you, are given in this pamphlet. In each setting one or more persons are doing something. Six probable reasons or aims are given for each act under a particular setting. First of all you have to study carefully each setting. Then you have to put a cross (X) mark only in the square shown against a reason or aim which you consider most appropriate. An example of the method of answering is given below.

Example:

Setting   A boy stands at the bus stop.

Probable   ☐ 1. He is waiting for the line bus.

reason or   ☐ 2. He is looking at the advertisement pasted at the bus stand.

aim   ☐ 3. He is waiting for his friend

     ☒ 4. He is waiting for the city bus which takes less fare.

     ☐ 5. He could not get into the bus due to the over crowding of the passengers.

     ☐ 6. He is watching the cunningness of the conductor giving the tickets to the passengers alighting from the bus.

In the above mentioned example one setting and, below it six reasons are given. A cross (X) mark is given in the square shown against the reason No. 4, that means, the boy who put the mark, has considered this as the most appropriate reason. However, it is possible that No. 1 or No. 6 or any other reason may appear more appropriate to you. If it is so, you put the cross mark against the reason which you consider as most-appropriate. *Remember that you are to put the cross (X) mark in only one square.*

While answering remember the following facts:

1. We want to know as to how well and quickly you can understand your own or others' behaviour or work. So try to answer as quickly as possible.
2. Put the cross (X) mark against only one sentence and don't write anything anywhere.
3. It takes nearly fifteen minutes to answer all the questions in the booklet for boys like you.
4. Answer each question.
5. The idea behind the questionnaire is neither to pass and fail you, nor has it any relation with your school work or daily lessons.

NOW TURN OVER AND BEGIN YOUR WORK

Achievement Value and Anxiety Inventory Items

1. A boy is sitting on a cot. He is having a book in his hand. An almirah full of books is lying nearby.
   1. He is preparing questions suggested by his teacher for the forthcoming examination.
   2. He is trying to find out the meaning of that word which no one in the class could explain.
   3. He is looking at the coloured picture given in a book.
   4. He is quickly doing the home task given by the teacher.
   5. He is thinking about the new application of the principles given in a book.
   6. He is reading a story.

2. A boy is making a picture.
   1. He is thinking whether to complete the picture or to leave it unfinished.
   2. He is doing practice to make pictures.
   3. He is making picture to participate in the annual art competition to be held in the school.
   4. He is thinking whether he should colour the picture.
   5. He is learning the art of making pictures.
   6. He is thinking, "When I would have learned the drawing well then I would be making beautiful pictures".

3. A boy is holding a model of aeroplane and is looking at it.
   1. He is thinking of becoming an engineer.
   2. He is guessing about the price of the aeroplane.
   3. He is observing as to how the aeroplane is made.
   4. He is carefully checking the aeroplane before demonstrating his flying skill.
   5. He is waiting for his friend to get the aeroplane started by him.
   6. He is thinking to repair the damaged aeroplane.

4. Two boys are standing facing the mountains.
   1. They are enjoying the beauty of Nature.
   2. They are planning to climb up to the highest peak of the mountain.
   3. They are studying the herbs available on the mountains.
   4. They have become tired after a lot of walking and are just relaxing.

    5. They are thinking about the new techniques of mountaineering.

    6. They are thinking of writing a report after having inspected the mountainous region.

5. A farmer's son is ploughing the field.

    1. He is contributing his share to make up the deficit of food in the country.

    2. He is thinking of sowing after he has ploughed the land.

    3. He is trying to get the maximum possible yield from his field.

    4. He is ploughing the land to get sufficient food for himself and his family.

    5. He is ploughing the field to sow seeds.

    6. He is using the chemical fertilisers to make the land more productive.

6. A boy is doing something in the laboratory.

    1. He is thinking that he should discover some new thing.

    2. He is practising to conduct experiment for the examination.

    2. He is clearing the instruments kept in the laboratory.

    4. He is busy in discovering new things.

    5. He is doing an experiment in science.

    6. He is looking at instruments placed in the laboratory.

7. A man and a boy are sitting with a 'tabla'.

    1. The boy is learning to play on 'tabla'.

    2. The boy is learning the tricks of the trade from his teacher in order to become a good artist or a good musician.

    3. They are wondering as to why other persons have not turned up so far.

    4. The boy is preparing for the examination in music.

    5. The boy is absorbed in learning new music compositions from that man.

    6. They are playing on the 'tabla' to entertain themselves.

8. Two boys are playing hockey.

    1. They are playing hockey to pass the evening time.

    2. They are learning hockey from the instructor.

    3. They are practising hockey to regain the trophy lost by them in the last competition.

4. They are playing for their amusement.

5. They are playing hockey to check whether the ground is suitable for playing a hockey match.

6. They are preparing for the final hockey match.

9. A teacher and some boys are in the class.

1. They are participating in a discussion competition on 'how to check the growing indiscipline in the schools'.

2. They are learning a new lesson from the teacher.

3. They are getting the complicated problem solved by the teacher.

4. They are taking part in a group discussion to evolve indigenous methods to solve the food problem.

5. They are talking with the teacher.

6. They are learning a new formula in mathematics from their teacher.

10. A teacher is sitting on a chair. A boy is standing by his side.

1. The boy is informing the teacher about the truants.

2. That boy has just now developed a new thing and he is eager to show it to the teacher.

3. The boy is standing beside the teacher to recite his lesson.

4. The boy is standing to hand over the letter from his father to the teacher.

5. He is standing to show his essay to the teacher that he has prepared to submit for the essay competition.

6. He is standing to understand a question from his teacher.

11. A boy is reading something.

1. He is finding the meaning of that word which no body could tell in the class.

2. He is reading a book of stories to pass the time.

3. He is reading about new discoveries made in different fields.

4. He is preparing the lesson assigned to him by his teacher.

5. He is enjoying a book of film songs.

6. He is preparing for some competitive examination.

12. The principal is giving something to a boy.

1. He is presenting a certificate to that boy for keeping up the name of the school in the last competition.

2. He is patting that boy for maintaining discipline in the class.
3. He is giving some important instructions to that boy.
4. He is giving a prize to the boy for his courageous act.
5. He is giving a booklet of rules and regulations to the boy for the forthcoming regional competition.
6. He is giving the atttedance register to the boy for taking attendance of the class in the absence of the class teacher.

13. Some boys are playing cricket.
    1. They are learning to play cricket.
    2. They are trying to improve upon their game.
    3. They are playing to spend their recess period.
    4. They are practising the game.
    5. They are preparing to take part in the annual school competition.
    6. They are playing an exhibition match to collect funds.

14. A boy is having some arrows in his hand. There is a target-board placed at some distance.
    1. That boy is waiting for the end of P.T. period, so that he can go home.
    2. He is learning the art of arrow shooting.
    3. He is practising the arrow shooting to become a good arrow shooter.
    4. He is trying to finish this game quickly so that he can play some other game.
    5. He is thinking of different techniques of shooting.
    6. He is practising to get first position in the arrow shooting competition.

15. A doctor is sitting with a patient.
    1. He is talking to the patient.
    2. He is carefully examining the patient.
    3. The doctor has given an injection to the patient and now he is waiting for his fee.
    4. The doctor is prescribing the diet for him.
    5. The doctor is carefully listening to the patient so that he can diagnose his disease properly.
    6. The doctor is giving an injection to the patient for making him healthy.

16. A boy is sitting under a lamp. He is having a book in his hand.
    1. He is thinking to do some great work after completing his studies.
    2. He is thinking that now he should start preparing for the examination.
    3. He is trying to write something in the book.
    4. He is preparing all the possible questions which can be asked in the examination so that he may score the highest marks in the class.
    5. He is turning the pages of the book and trying to find out that page on which the questions to be asked by the teacher on the following day are given.
    6. He is checking whether there is any name written on the book that he found on his return from school.

17. A boy is doing something with the help of a hammer and a chisel.
    1. He is making a model.
    2. He is trying to improve his skill in the craft.
    3. He is checking whether the hammer and chisel work properly.
    4. He is repairing the broken model.
    5. He is trying to become a sculptor.
    6. By doing this he is having a physical exercise.

18. A boy is standing with a pen in his hand. A note-book and an ink-pot are lying nearby.
    1. He will fill in the ink and write something on the note-book.
    2. He is thinking of writing an interesting story.
    3. He is imagining to become a writer.
    4. He is checking whether the pen writes properly.
    5. He is thinking of the outlines for an essay for the competition.
    6. He is solving assigned questions on the note book with the help of that pen.

19. Some persons are doing various types of work.
    1. They are discussing as to what they should do so that they can progress.
    2. They are busy in their respective tasks.
    3. They are working to earn money.

4. They are thinking about various ways to march ahead on the path of progress.
5. They are doing their work.
6. A man has to do something to earn his livelihood. These people are also doing some such work.

20. A boy is flying a kite.

1. He is amusing himself.
2. He is thinking as to how he should fly the kite so that he may win the kite-flying competition.
3. He is wondering whether he should participate in the next day's competition of kite-flying.
4. He has just now bought the kite out of the money that he got from his mother and is now trying to fly it.
5. He is thinking to be a good kite-flier so that he may compete with his companians.
6. He is thinking whether he should compete with the other kite–flier.

21. The teacher is teaching in the class.

1. The teacher is trying to complete the course.
2. He is teaching to get the salary.
3. He is making a study of effective methods of teaching.
4. He is answering the questions put to him by the students.
5. He is punishing those students who have not done the work.
6. He is making the difficult lesson easier by giving new examples.

22. Three boys are running a relay race.

1. They are practising to improve upon their game.
2. They are learning the relay race during the games period.
3. They are carrying out the instructions.
4. They are demonstrating their game.
5. They are trying to surpass each other in the race.
6. They are observing the sports day.

APPENDIX–III

Questionnaire item used in the aspiration study.

Note:—Please answer the following by putting a tick mark ($\sqrt{}$) against the answer of your choice.

What percentage of aggregate marks do you expect to score in the forthcoming Test Examination?

Below 20%	20%	30%	40%	50%	60%	70%	80%	90%	Above 90%

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ABOUT THE BOOK

The book describes the results of an area study on the broad theme of achievement-related motivation and its relation to achievement behaviour among secondary school pupils of the north-eastern region. After surveying past and contemporary researches on achievement-related motivation, the volume attempts an explanation to account for the relatively higher level of achievement motivation among certain sections of high school adolescents, such as tribals, rural residents and girls. The findings on the relationship between achievement motivation and achievement behaviour in the school setting are critically examined against existing theoretical positions and provide valuable clues to fresh theoretical issues, especially in relation to achievement anxiety.

ABOUT THE AUTHOR

Dr. Gokulanathan had his education at the Universities of Travancore, Benares, Gauhati and Dibrugarh. He is at present Reader and Head of the Department of Educational Research and Studies, School of Education, North-Eastern Hill University, Shillong. Prior to this, he was on the Faculty of Gauhati and Dibrugarh Universities, and held a Faculty position in the Indian Institute of Mass Communication, New Delhi, for a brief period. In 1975, he visited the United Kingdom on a short-term Commonwealth Fellowship. He is the author of a number of research articles on different topics.